

SERVICE MANUAL

COMPACT DISC STEREO SYSTEM

BASIC CD MECHANISM : 3ZG-3 E2NC
BASIC TAPE MECHANISM: BZM-1 AR2NC

SYSTEM	CD CASSEIVER	SPEAKER	REMOTE CONTROLLER
XR-M171	CX-LM171	SX-LM171	RC-AAT11
XR-M191	CX-LM191	SX-LM191	

- This Service Manual is the "Revision Publishing" and replace "Simple Manual" XR-M171/191<U,LH>, (S/M Code No. 09-012-443-6T1).

SPECIFICATIONS

TUNER

FM tuning range:	87.5 MHz to 108 MHz
FM usable sensitivity(IHF):	13.2 dBf
FM antenna terminals:	75 ohms (unbalanced)
AM tuning range:	530 kHz to 1710 kHz (10 kHz step) 531 kHz to 1602 kHz (9 kHz step)
AM usable sensitivity:	350 µV/m
AM antenna:	Loop antenna

AMPLIFIER

XR-M171

Power output:	8 W + 8 W (50 Hz - 20 kHz, THD less than 1%, 16 ohms) 10 W + 10 W (1 kHz, THD less than 10%, 16 ohms)
Total harmonic distortion:	0.2% (6 W, 1 kHz, 16 ohms, DIN AUDIO)

XR-M191<U>

Power output:	12 W + 12 W (50 Hz - 20 kHz, THD less than 1%, 8 ohms) 15 W + 15 W (1 kHz, THD less than 10%, 8 ohms)
Total harmonic distortion:	0.2% (8 W, 1 kHz, 8 ohms, DIN AUDIO)

XR-M191<LH>

Power output:	Rated: 12 W + 12 W (1 kHz, THD less than 1%, 8 ohms) Reference: 15 W + 15 W (1 kHz, THD less than 10%, 8 ohms)
Total harmonic distortion:	0.2% (8 W, 1 kHz, 8 ohms, DIN AUDIO)
Input:	VIDEO/AUX: 0.4 V
Output:	SUB WOOFER: 500 mV SPEAKERS: 16 ohms or more<171> 8 ohms or more<191> PHONES: 32 ohms or more

CASSETTE DECK

Track format:	4 tracks, 2 channels stereo
Frequency response:	50 Hz - 15 kHz
Recording system:	AC bias
Heads:	Recording/playback x 1, erase x 1

CD PLAYER

Laser:	Semiconductor laser ($\lambda = 780$ nm)
D/A converter:	1 bit dual
Signal-to-noise ratio:	75 dB (1 kHz, 0 dB)
Harmonic distortion:	0.2 % (1 kHz, 0 dB)

SPEAKERS SX-LM171 (only for XR-M171)

Speaker system:	2 way, bass reflex
Speaker units:	Woofer: 120 mm (4.7 in.) cone Tweeter: 20 mm (0.78 in.) cone
Impedance:	16 ohms
Dimensions (W x H x D):	144 x 255 x 204 mm (5.7 x 10 x 8 in.)
Weight:	1.0 kg (2 lbs 3 oz)

SPEAKERS SX-LM191 (only for XR-M191)

Speaker system:	2 way, bass reflex
Speaker units:	Woofer: 120 mm (4.7 in.) cone Tweeter: 20 mm (0.78 in.) cone
Impedance:	8 ohms
Dimensions (W x H x D):	144 x 255 x 204 mm (5.7 x 10 x 8 in.)
Weight:	1.5 kg (3 lbs 5 oz)

GENERAL

Power requirements:	120 V AC, 60 Hz<U> 120 V/220 - 230 V/240 V AC (Switchable), 50 Hz/60Hz<LH>
Power consumption:	35 W<171>, 45 W<191>
Power consumption in standby mode:	With ECO mode on: 1.0 W With ECO mode off: 10 W
Dimensions (W x H x D):	167 x 255 x 240 mm (6.5 x 10 x 9.5 in.)
Weight:	3.5 kg (7 lbs 12 oz)

- Design and specifications are subject to change without notice.

ACCESSORIES / PACKAGE LIST

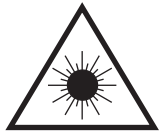
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8B-CL9-901-010	IB,U (ESF) -C<191U>	
1	8B-CL9-906-010	IB,LH (ESP) -C<191LH>	
1	8B-CLW-901-010	IB,U (ESF) -C<171U>	
2	87-043-115-010	FEEDER-ANT,FM	
3	87-A90-054-010	ANT,LOOP AM-CON C	
4	8A-CLB-961-210	RC UNIT,RC-AAT11	
△ 5	87-A91-017-010	PLUG,CONVERSION JT-0476<LH>	

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

WARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvisning, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION

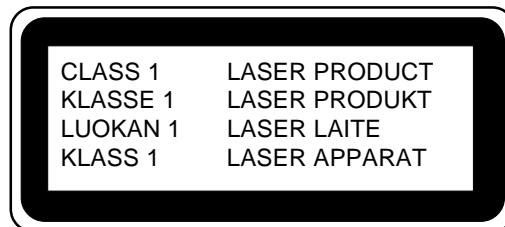
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL

Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.

The CLASS 1 LASER PRODUCT label is located on the rear exterior.

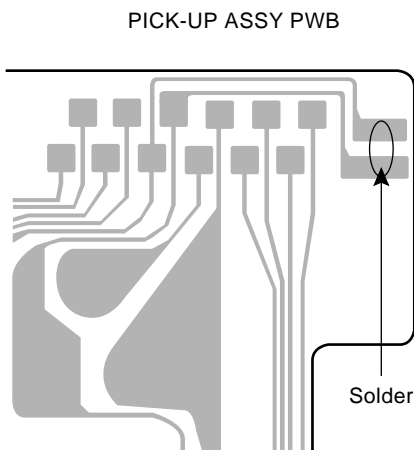


Precaution to replace Optical block

(KSS-213F)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

- 1) After the connection, remove solder shown in right figure.



ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC	87-020-454-010	IC, DN6851		C112	87-010-263-080	CAP, ELECT	100-10V
	87-A20-446-010	C-IC, LA9241ML		C113	87-010-403-080	CAP, ELECT	3.3-50V
	87-A21-319-010	C-IC, LC78622NE		C114	87-010-374-080	CAP, ELECT	47-10V
	87-A20-157-010	IC, TA2092N		C115	87-A11-007-080	CAP, M	0.047-50 J DE
	87-001-536-010	IC, NJM78M05FA		C116	87-A11-007-080	CAP, M	0.047-50 J DE
	87-001-982-010	IC, TA7291S		C122	87-010-260-080	CAP, ELECT	47-25V
	8B-CL9-631-010	C-IC, LC866548A		C123	87-010-260-080	CAP, ELECT	47-25V
	87-A21-419-040	C-IC, NJM14558MD-TE2		C131	87-A12-317-080	C-CAP, U	0.1-50 Z F
	87-A21-831-010	IC, SPS-422-1-F1		C132	87-A12-317-080	C-CAP, U	0.1-50 Z F
	87-A21-893-040	C-IC, NJM14558V-TE2		C133	87-012-286-080	C-CAP, U	0.01-25
	87-A21-520-040	C-IC, M61509FP		C151	87-010-759-080	C-CAP, U,	0.1-25F
	87-A21-695-010	IC, LA1845L		C200	87-012-286-080	C-CAP, U	0.01-25<191LH>
	87-A21-928-010	IC, LC72131D-N		C201	87-012-286-080	C-CAP, U	0.01-25<191LH>
				C207	87-010-546-080	CAP, ELECT	0.33-50V
				C208	87-010-546-080	CAP, ELECT	0.33-50V
				C209	87-012-282-080	CAP, U	4700P-50
				C210	87-012-282-080	CAP, U	4700P-50
				C211	87-010-403-080	CAP, ELECT	3.3-50V
				C212	87-010-403-080	CAP, ELECT	3.3-50V
				C213	87-010-260-080	CAP, ELECT	47-25V
				C214	87-010-260-080	CAP, ELECT	47-25V
				C217	87-010-959-080	CHIP CAP, U	0.056-16F
				C218	87-010-959-080	CHIP CAP, U	0.056-16F
				C219	87-010-759-080	C-CAP, U,	0.1-25F
				C220	87-010-759-080	C-CAP, U,	0.1-25F
TRANSISTOR	87-A30-466-040	C-TR, DTA144TKA		C227	87-010-260-080	CAP, ELECT	47-25V
	87-A30-436-040	C-TR, DTC144TKA		C229	87-012-199-080	C-CAP, U	220P-50
	89-109-521-080	TR, 2SA952K		C230	87-012-199-080	C-CAP, U	220P-50
	89-318-155-080	TR, 2SC1815GR		C261	87-012-286-080	C-CAP, U	0.01-25
	87-026-610-080	TR, KTC3198GR		C273	87-010-759-080	C-CAP, U,	0.1-25F<191LH>
	87-026-609-080	TR, KTA1266GR		C303	87-A10-915-080	C-CAP, U	1000P-25 J CH
	89-327-125-080	CHIP TR, 2SC2712GR		C304	87-A10-915-080	C-CAP, U	1000P-25 J CH
	87-A30-196-080	TR, 2SC4115SRS		C305	87-010-246-080	CAP, ELECT	47-35V
	87-A30-515-080	TR, 2SA19790/Y		C307	87-010-263-080	CAP, ELECT	100-10V
	89-111-625-080	C-TR, 2SA1162GR		C308	87-010-263-080	CAP, ELECT	100-10V
	89-213-702-010	TR, 2SB1370E		C313	87-012-280-080	C-CAP, U	3300P-50
	87-A30-455-040	C-TR, DTA144EKA		C314	87-012-280-080	C-CAP, U	3300P-50
	87-A30-256-010	TR, 2SD1933		C315	87-010-374-080	CAP, ELECT	47-10V
	87-A30-255-010	TR, 2SB1342		C317	87-010-546-080	CAP, ELECT	0.33-50V
	87-026-219-080	C-TR, DTA144ES (0.3W)		C318	87-010-546-080	CAP, ELECT	0.33-50V
	87-026-245-080	C-TR, DTC114ES		C340	87-012-199-080	C-CAP, U	220P-50
	89-112-965-080	TR, 2SA1296GR		C361	87-010-374-080	CAP, ELECT	47-10V
	87-A30-087-080	C-FET, 2SK2158		C362	87-010-401-080	CAP, ELECT	1-50V
	87-A30-387-040	C-TR, DTA124EUA		C401	87-010-401-080	CAP, ELECT	1-50V
	87-A30-074-080	C-TR, RT1P 141C		C402	87-010-401-080	CAP, ELECT	1-50V
	87-A30-234-080	TR, CSC4115BC		C403	87-012-193-080	C-CAP, U	82P-50 CH
	89-327-143-080	C-TR, 2SC27140		C404	87-012-193-080	C-CAP, U	82P-50 CH
	87-A30-489-080	C-TR, KRA107S		C405	87-012-284-080	C-CAP, U	6800P-50
	89-503-602-080	C-FET, 2SK360E		C406	87-012-284-080	C-CAP, U	6800P-50
DIODE	87-020-465-080	DIODE, 1SS133 (110MA)		C407	87-010-784-080	C-CAP, U	0.012-25 B
	87-A40-270-080	C-DIODE, MC2838		C408	87-010-784-080	C-CAP, U	0.012-25 B
	87-A40-454-080	DIODE, 1N5393 GW		C451	87-010-787-080	C-CAP, U	0.022-25
	87-A40-748-080	ZENER, UZ5.6BSA		C452	87-010-248-080	CAP, ELECT	220-10V
	87-A40-553-080	DIODE, 1N4003 LES		C453	87-012-279-080	C-CAP, U	2700P-50 B
	87-070-345-080	DIODE, IN4148		C454	87-012-279-080	C-CAP, U	2700P-50 B
	87-A40-781-080	ZENER, UZ36BSA		C455	87-012-279-080	C-CAP, U	2700P-50 B
	87-A40-764-080	ZENER, UZ10BSC		C456	87-012-286-080	C-CAP, U	0.01-25
	87-017-024-040	C-DIODE, DA204K		C458	87-012-274-080	CHIP CAP, U	1000P-50B
	87-020-027-080	CHIP-DIODE 1SS184		C459	87-012-271-080	C-CAP, U	560P-50
	87-A40-739-080	ZENER, UZ2.7BSA		C461	87-012-269-080	C-CAP, U	390P-50 B
	87-017-149-080	AENER, HAS6A2L		C462	87-012-269-080	C-CAP, U	390P-50 B
MAIN C.B	C101	87-A12-442-000	CAP, E 3300-25 M 85 IV LELON	C601	87-012-276-080	CAP, CHIP U	1500P K B
	C102	87-012-286-080	C-CAP, U 0.01-25	C602	87-012-276-080	CAP, CHIP U	1500P K B
	C104	87-A12-381-000	CAP, E 2200-25 M 85 IV LELON	C609	87-012-287-080	C-CAP, U	0.015-25 F
	C105	87-A10-039-080	C-CAP, U 470P-50 J CH	C610	87-010-785-080	C-CAP, U	0.015-25 K B
	C106	87-010-408-080	CAP, ELECT 47-50V	C611	87-010-545-080	CAP, ELECT	0.22-50V
	C107	87-010-384-080	CAP, ELECT 100-25V	C612	87-010-545-080	CAP, ELECT	0.22-50V
	C108	87-010-381-080	CAP, ELECT 330-16V	C613	87-010-545-080	CAP, ELECT	0.22-50V
	C109	87-010-260-080	CAP, ELECT 47-25V	C614	87-010-545-080	CAP, ELECT	0.22-50V
	C110	87-010-260-080	CAP, ELECT 47-25V	C615	87-012-172-080	CAPACITOR CHIP U	10P CH
	C111	87-010-247-080	CAP, ELECT 100-50V				

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C616	87-010-408-080		CAP, ELECT 47-50V	PR301	87-A91-957-080		FUSE, 630MA 125V F 20N<191U, 171U>
C617	87-010-408-080		CAP, ELECT 47-50V	PR301	87-026-689-080		PROTECTOR, 1A 491SERIES 60V<191LH>
C619	87-010-401-080		CAP, ELECT 1-50V	S301	87-A90-164-080		SW, TACT SKQNAB (N)
C620	87-010-401-080		CAP, ELECT 1-50V	S302	87-A90-164-080		SW, TACT SKQNAB (N)
C627	87-012-286-080		C-CAP, U 0.01-25	S303	87-A90-164-080		SW, TACT SKQNAB (N)
C628	87-012-286-080		C-CAP, U 0.01-25	S304	87-A90-164-080		SW, TACT SKQNAB (N)
C635	87-012-274-080		CHIP CAP, U 1000P-50B<191LH>	S305	87-A90-164-080		SW, TACT SKQNAB (N)
C663	87-010-759-080		C-CAP, U, 0.1-25F	S306	87-A90-164-080		SW, TACT SKQNAB (N)
C697	87-012-286-080		C-CAP, U 0.01-25	S307	87-A90-164-080		SW, TACT SKQNAB (N)
C698	87-012-286-080		C-CAP, U 0.01-25	S308	87-A90-164-080		SW, TACT SKQNAB (N)
C915	87-012-336-080		CAP, CHIP U 3300P SL	S309	87-A90-164-080		SW, TACT SKQNAB (N)
C916	87-012-336-080		CAP, CHIP U 3300P SL	S310	87-A90-164-080		SW, TACT SKQNAB (N)
CN202	87-099-719-010		CONN, 30P H BLK TYK-B(X)	S311	87-A90-164-080		SW, TACT SKQNAB (N)
CN351	87-A60-624-010		CONN, 7P V 2MM JMT	S312	87-A90-164-080		SW, TACT SKQNAB (N)
CN702	87-099-570-010		CONN, 13P V TUC-P13P-B1	S313	87-A90-164-080		SW, TACT SKQNAB (N)
CNA101	8A-NF8-655-010		CONN ASSY, 7P TID-A(150)	S314	87-A90-164-080		SW, TACT SKQNAB (N)
FB401	83-XM1-617-080		C-COIL, BK2125HM601	S315	87-A90-164-080		SW, TACT SKQNAB (N)
FB402	83-XM1-617-080		C-COIL, BK2125HM601	S316	87-A90-164-080		SW, TACT SKQNAB (N)
FB601	87-A90-896-080		F-BEAD, 035600STY7	S317	87-A90-164-080		SW, TACT SKQNAB (N)
FB603	87-A90-896-080		F-BEAD, 035600STY7	S318	87-A90-164-080		SW, TACT SKQNAB (N)
FB606	83-XM1-617-080		C-COIL, BK2125HM601	S320	87-A90-164-080		SW, TACT SKQNAB (N)
J231	87-A60-420-010		JACK, 3.5 ST (MSC)	S351	87-A91-690-010		SW, RTRY JOG RE0121PVB25FINB
J241	87-A60-217-010		TERMINAL, SPKR 4P	X301	87-A70-070-080		VIB, CER 5.76MHZ CRHF
J601	87-A60-881-010		JACK, PIN 2P MSP 242V05 PBSN				
J603	87-099-801-010		JACK, PIN 1P BLK W/O SW				
L201	87-A50-610-010		COIL, 1UH K(MDEC)	CD C.B			
L202	87-A50-610-010		COIL, 1UH K(MDEC)	C1	87-010-403-080		CAP, ELECT 3.3-50V
L451	87-007-342-010		COIL, OSC 85KHZ BIAS	C2	87-012-286-080		C-CAP, U 0.01-25
PN101	87-A90-460-010		HLDR, WIRE 2.5-7P	C3	87-010-263-080		CAP, ELECT 100-10V
R223	87-A00-258-080		RES, M/F 0.22-1W J	C4	87-010-248-080		CAP, ELECT 220-10V
R224	87-A00-258-080		RES, M/F 0.22-1W J	C5	87-012-286-080		C-CAP, U 0.01-25
R249	87-A00-258-080		RES, M/F 0.22-1W J	C6	87-010-374-080		CAP, ELECT 47-10V
R250	87-A00-258-080		RES, M/F 0.22-1W J	C7	87-012-274-080		CHIP CAP, U 1000P-50B
FRONT C.B				C8	87-010-787-080		C-CAP, U 0.022-25
C102	87-012-278-080		C-CAP, U 2200P-50 B	C9	87-010-263-080		CAP, ELECT 100-10V
C103	87-010-264-040		CAP, E 100-10 5L	C10	87-010-263-080		CAP, ELECT 100-10V
C106	87-010-263-040		CAP, E 100-10	C12	87-010-401-080		CAP, ELECT 1-50V
C302	87-012-286-080		C-CAP, U 0.01-25	C13	87-012-286-080		C-CAP, U 0.01-25
C304	87-010-405-040		CAP, E 10-50	C14	87-010-405-080		CAP, ELECT 10-50V
C307	87-010-421-040		CAP, E 4.7-50 5L	C16	87-010-545-080		CAP, ELECT 0.22-50V
C308	87-010-421-040		CAP, E 4.7-50 5L	C17	87-012-274-080		CHIP CAP, U 1000P-50B
C309	87-010-787-080		C-CAP, U 0.022-25	C18	87-010-785-080		C-CAP, U 0.015-25 K B
C314	87-010-370-040		CAP, E 330-6.3 SME	C20	87-010-788-080		C-CAP, U 0.033-25
C315	87-A10-025-080		C-CAP, U 0.22-16 Z F	C22	87-012-276-080		C-CAP, U 1500P
C317	87-010-787-080		C-CAP, U 0.022-25	C23	87-010-757-080		C-CAP, U 0.047-25F
C329	87-010-787-080		C-CAP, U 0.022-25	C29	87-012-282-080		C-CAP, U 4700P-50
C330	87-A11-084-080		CAP, TC U 68P-50 J CH	C30	87-012-199-080		C-CAP, U 220P
C331	87-018-149-080		CAP, TC U 15P-50 CH	C31	87-010-545-080		CAP, ELECT 0.22-50V
C333	87-015-694-040		CAP, E 0.47-50	C32	87-010-374-080		CAP, ELECT 47-10V
C335	87-018-113-080		CAP, TC U 33P-50V	C33	87-010-401-080		CAP, ELECT 1-50V
C338	87-012-286-080		C-CAP, U 0.01-25	C34	87-012-278-080		C-CAP, U 2200P-50 B
C339	87-012-286-080		C-CAP, U 0.01-25	C35	87-012-286-080		C-CAP, U 0.01-25
C340	87-012-286-080		C-CAP, U 0.01-25	C36	87-010-374-080		CAP, ELECT 47-10V
C420	87-010-759-080		C-CAP, U, 0.1-25F	C37	87-010-404-080		CAP, ELECT 4.7-50V
C421	87-012-188-080		C-CAP, U 47P-50 CH	C38	87-010-759-080		C-CAP, U, 0.1-25F
C422	87-012-286-080		C-CAP, U 0.01-25	C39	87-012-274-080		CHIP CAP, U 1000P-50B
C423	87-010-403-040		CAP, E 3.3-50 SME	C40	87-012-162-080		C-CAP, U 1P-50 CK
CN4	87-099-032-010		CONN, 15P H BLK 6216	C42	87-012-172-080		CAPACITOR CHIP U 10P CH
CN301	87-099-720-010		CONN, 30P BLK TYK-B(P)	C43	87-018-174-080		CAP, TC U 18P
CN302	87-A60-079-010		CONN, 08P H 9604S-08F	C45	87-010-759-080		C-CAP, U, 0.1-25F
FFC302	88-908-151-210		FF-CABLE, 8P 1.25-150MM	C46	87-010-759-080		C-CAP, U, 0.1-25F
FFC4	88-915-231-110		FF-CABLE, 15P 1.25 230MM	C47	87-010-759-080		C-CAP, U, 0.1-25F
FL301	8A-CL9-684-010		FL, HNA-11SS 29T	C48	87-012-182-080		C-CAP, U 27P-50 CH
LED301	87-A40-229-040		LED, SLR-342VR TB7 RED	C50	87-A10-039-080		C-CAP, U 470P-50 J CH
LED302	87-A40-619-040		LED, SLR-56PT-T31-W GRN	C51	87-A12-309-080		C-CAP, U 680P-50 J CH
LED303	87-A40-619-040		LED, SLR-56PT-T31-W GRN	C57	89-654-255-080		CAP, TC 33P-50 J CH UP125
LED304	87-A40-619-040		LED, SLR-56PT-T31-W GRN	C58	89-654-255-080		CAP, TC 33P-50 J CH UP125
LED305	87-A40-619-040		LED, SLR-56PT-T31-W GRN	C59	87-010-263-080		CAP, ELECT 100-10V
				C60	87-010-759-080		C-CAP, U, 0.1-25F
				C61	87-010-759-080		C-CAP, U, 0.1-25F

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C62	87-010-370-080		CAP,E 330-6.3 SME	C784	87-012-286-080		C-CAP,U 0.01-25 K B
C65	87-010-404-080		CAP, ELECT 4.7-50V	C785	87-012-286-080		C-CAP,U 0.01-25 K B
C66	87-010-759-080		C-CAP,U, 0.1-25F	C786	87-010-787-080		C-CAP,U 0.022-25 K B
C67	87-010-263-080		CAP, ELECT 100-10V	C788	87-012-167-080		C-CAP,U 5P-50 CH
C75	87-012-286-080		C-CAP,U 0.01-25	C789	87-010-787-080		C-CAP,U 0.022-25 K B
C76	87-A10-102-080		CAP,E 1000-10 REA	C790	87-010-787-080		C-CAP,U 0.022-25 K B
C77	87-010-263-080		CAP, ELECT 100-10V	C791	87-010-831-080		C-CAP,U,0.1-16F
C78	87-012-286-080		C-CAP,U 0.01-25	C792	87-012-286-080		C-CAP,U 0.01-25 K B
C79	87-012-286-080		C-CAP,U 0.01-25	C793	87-A11-056-080		C-CAP,U 1-10 Z F
C80	87-010-112-080		CAP, ELECT 100-16V	C795	87-012-286-080		C-CAP,U 0.01-25 K B
C81	87-010-405-080		CAP, ELECT 10-50V	C799	87-010-982-040		CAP,E 33-25 GAS
C82	87-010-405-080		CAP, ELECT 10-50V	C801	87-A11-056-080		C-CAP,U 1-10 Z F
C83	87-012-277-080		C-CAP,U 1800P-50 B	C802	87-010-829-080		CAP, U 0.047-16
C84	87-012-277-080		C-CAP,U 1800P-50 B	C804	87-010-555-040		CAP,E 100-10 GAS
C90	87-012-286-080		C-CAP,U 0.01-25	C807	87-A10-463-080		C-CAP,U,0.47-10 Z F
C91	87-010-405-080		CAP, ELECT 10-50V	C808	87-A11-056-080		C-CAP,U 1-10 Z F
C92	87-010-387-080		CAP,E 470-25 SME	C809	87-A11-056-080		C-CAP,U 1-10 Z F
C93	87-012-286-080		C-CAP,U 0.01-25	C810	87-010-831-080		C-CAP,U,0.1-16F
C94	87-012-286-080		C-CAP,U 0.01-25	C814	87-012-286-080		C-CAP,U 0.01-25 K B
C95	87-012-286-080		C-CAP,U 0.01-25	C815	87-A10-463-080		C-CAP,U,0.47-10 Z F
C96	87-010-221-080		CAP, ELECT 470-10V	C816	87-A10-463-080		C-CAP,U,0.47-10 Z F
C97	87-012-286-080		C-CAP,U 0.01-25	C821	87-A11-063-080		C-CAP,S 4.7-10 Z F
C98	87-012-197-080		C-CAP,U 150P-50 CH	C823	87-012-273-080		C-CAP,U 820P-50 K B
C100	87-012-278-080		C-CAP,U 2200P-50 B	C824	87-A11-063-080		C-CAP,S 4.7-10 Z F
C101	87-012-195-080		C-CAP,U 100P-50CH	C825	87-A11-317-080		C-CAP,U 0.068U-16 K B
C102	87-012-195-080		C-CAP,U 100P-50CH	C831	87-010-552-040		CAP,E 22-16 GAS
C103	87-012-195-080		C-CAP,U 100P-50CH	C836	87-012-286-080		C-CAP,U 0.01-25 K B
C104	87-012-195-080		C-CAP,U 100P-50CH	C842	87-012-286-080		C-CAP,U 0.01-25 K B
C105	87-012-195-080		C-CAP,U 100P-50CH	C844	87-012-286-080		C-CAP,U 0.01-25 K B
C110	87-010-759-080		C-CAP,U, 0.1-25F	C850	87-A11-056-080		C-CAP,U 1-10 Z F
C162	87-012-274-080		CHIP CAP,U 1000P-50B	C851	87-012-286-080		C-CAP,U 0.01-25 K B
CN1	87-A60-424-010		CONN,16P V TOC-B	C852	87-012-286-080		C-CAP,U 0.01-25 K B
CN3	87-A60-131-010		CONN,6P V FE	C853	87-012-286-080		C-CAP,U 0.01-25 K B
CN4	87-099-032-010		CONN,15P H BLK 6216	C858	87-010-831-080		C-CAP,U 0.1-16 Z F
CN6	87-A60-153-010		CONN,5P H FE	C860	87-012-286-080		C-CAP,U 0.01-25 K B
FFC1	88-CL4-704-010		FF-CABLE, 16P 1.0	C902	87-012-167-080		C-CAP,U 5P-50 C CH
FFC3	88-906-131-110		FF-CABLE,6P 1.25	C908	87-012-176-080		C-CAP,U 15P-50 J CH
FFC6	88-905-231-110		FF-CABLE, 5P 1.25 230MM	C909	87-012-274-080		C-CAP,U 1000P-50 K B
R70	87-029-019-090		RES,FUSE 2.2-1/2W J	C911	87-012-170-080		C-CAP,U 0.1-16 Z F
R73	87-029-361-090		RES,FUSE 3.3-1/2W J	C912	87-012-195-080		C-CAP,U 100P-50CH
R85	87-022-284-080		C-RES,U 68K-1/16W F	C913	86-ZA1-616-080		C-CAP,U 0.01-50 K B (MUR)
R86	87-022-284-080		C-RES,U 68K-1/16W F	C914	86-ZA1-616-080		C-CAP,U 0.01-50 K B (MUR)
R87	87-022-284-080		C-RES,U 68K 1-16W F	C915	86-ZA1-616-080		C-CAP,U 0.01-50 K B (MUR)
R88	87-022-284-080		C-RES,U 68K 1-16W F	C918	87-012-164-080		C-CAP,U 2P-50 C CH
R107	87-022-243-080		CHIP RES,U 15K-1/16W F	C920	87-012-180-080		C-CAP,U 22P-50 J CH
R108	87-022-243-080		CHIP RES,U 15K-1/16W F	C921	87-012-186-080		C-CAP,U 39P-50 J CH
R109	87-022-243-080		CHIP RES,U 15K-1/16W F	C922	87-012-174-080		CAP CHIP CERA SS 12P CHJ
R110	87-022-243-080		CHIP RES,U 15K-1/16W F	C923	87-012-270-080		C-CAP,U 470P-50 K B
X1	87-A70-046-010		VIB,XTAL 16.934MHZ	C924	87-012-174-080		C-CAP,U 12P-50 J CH
				C927	87-012-195-080		C-CAP,U 100P-50CH
PT C.B				C961	87-012-170-080		C-CAP,U 8P-50 D CH
C101	87-010-387-080		CAP,E 470-25 SME	C963	87-010-831-080		C-CAP,U,0.1-16F
CN101	87-A61-109-010		CONN,7P V TID-A	C971	87-010-381-080		CAP, ELECT 330-16V
△ F101	87-035-454-010		FUSE,1.6A 250V T 218<191LH>	C972	87-A11-063-080		C-CAP,S 4.7-10 Z F
△ FC101	87-033-213-080		FUSE CLAMP, PFC5000<191LH>	C973	87-012-286-080		C-CAP,U 0.01-25 K B
△ FC102	87-033-213-080		FUSE CLAMP, PFC5000<191LH>	C974	87-012-286-080		C-CAP,U 0.01-25 K B
△ PT101	8B-CL9-644-010		PT,LH<191LH>	C976	87-010-831-080		C-CAP,U,0.1-16F
△ PT101	8B-CL9-642-010		PT,U<191U,171U>	C979	87-012-195-080		C-CAP,U 100P-50CH
△ PT102	8B-NF9-663-010		PT,SUB BNF H (TAM)<191LH>	C981	87-010-553-040		CAP,E 47-16 GAS
△ PT102	8B-NF9-661-010		PT,SUB BNF U (TAM)<191U,171U>	C982	87-010-831-080		C-CAP,U,0.1-16F
△ RY102	87-A91-281-010		RELAY,AC DC12V OSA-SS-212DM5<191LH>	C983	87-A11-132-080		CAP,TC U 0.01-50 K B
△ RY102	87-A90-976-010		RELAY,AC12V SDT-S-112LMR<191U,171U>	C984	87-012-286-080		C-CAP,U 0.01-25 K B
△ SW101	87-A90-234-010		SW,SL 1-2-2 SWS2201<191LH>	C985	87-012-195-080		C-CAP,U 100P-50CH
△ T101	87-A60-317-010		TERMINAL, 1P MSC	C987	87-012-286-080		C-CAP,U 0.01-25 K B
△ T102	87-A60-317-010		TERMINAL, 1P MSC	C990	87-012-195-080		C-CAP,U 100P-50CH
TUNER C.B				C991	87-012-176-080		C-CAP,U 15P-50
C772	87-012-286-080		C-CAP,U 0.01-25 K B	C992	87-012-176-080		C-CAP,U 15P-50
				C993	87-012-274-080		CHIP CAP,U 1000P-50B
				C994	87-012-195-080		C-CAP,U 100P-50CH
				C995	87-012-274-080		CHIP CAP,U 1000P-50B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C996	87-012-195-080		C-CAP,U 100P-50CH
C997	87-010-831-080		C-CAP,U,0.1-16F
C998	87-010-553-040		CAP,E 47-16 GAS
C999	87-012-286-080		C-CAP,U 0.01-25 K B
CF831	87-008-261-010		FLTR,CF SFE10.7MA5
CF832	87-008-261-010		FLTR,CF SFE10.7MA5
CN991	87-A60-700-010		CONN,13P H GRY TUC-P13X-C1
D902	87-A40-916-040		C-VARI-CAP,HVC202A
D903	87-A40-916-040		C-VARI-CAP,HVC202A
J832	87-A61-535-010		TERMINAL,ANT 2P HSP-302V
J940	87-A60-633-010		CONN,2P H 2.5MM JMT
L801	87-A50-694-010		COIL,FM-DET 2 (COILS)
L802	87-A91-551-010		FLTR,PCFJZH-450 L(TOK)
L811	87-005-847-080		COIL,2.2UH CECS
L832	87-005-847-080		COIL,2.2UH CECS
L903	88-ZA1-602-110		COIL,FM-RF-U2 2G
L904	88-ZA1-601-010		COIL,FM-RF-U1 2G
L906	87-005-847-080		COIL,2.2UH CECS
L907	8A-NEC-611-010		COIL,FM OSC U 2G
L908	88-ZA1-624-010		COIL,FM IFT 7-6.2 (COILS)
L951	8A-NF8-667-010		COIL,AM PACK 4(TOK)
R790	87-012-286-080		CAP, U 0.01-25
R902	87-012-166-080		C-CAP,U 4P-50 C CH
X991	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309

DRIVE C.B

CON3	87-A60-086-010	CONN,6P H 6216
M20	87-045-358-010	MOT,RF-310TA 43
M21	87-045-356-010	MOT,RF-310TA 30
SW1	87-A90-042-010	SW,LEAF MSW-17310MVP0

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
LOAD	C.B		
CON6	87-099-210-010		CONN,5P 6216 H
M1	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
SW1	87-036-110-010		PUSH SWITCH
SW2	87-036-110-010		PUSH SWITCH
DECK	C.B		
CN1	87-A60-079-010		CONN,08P H 9604S-08F
M1	87-A91-825-010		MOT,M09Y/Z
SOL2	82-ZM3-628-010		SOL ASSY,23 SO
SW1	87-036-110-010		SW,MICRO SPPB62
SW2	87-036-110-010		SW,MICRO SPPB62
SW4	87-036-110-010		SW,MICRO SPPB62
SW5	87-036-110-010		SW,MICRO SPPB62
HEAD	C.B		
CON351	85-ZM3-602-010		PWB,FLEX A
	88-CL4-701-010		CONN ASSY,7P RPEH

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち

Chip Resistor Part Coding



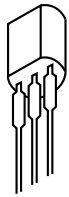
A
抵抗部品コード
Resistor Code

桁表示
Figure
抵抗値
Value of resistor

チップ抵抗 Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード : A Resistor Code : A
				外形／Form	L	W	t	
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION



E C B

CSC4115BC
KTA1266GR
KTC3198GR



B C E

2SA1979O/Y
2SC1815GR



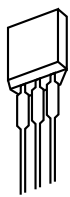
B C E

2SB1342
2SB1370E
2SD1933



E C B

2SA952K



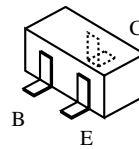
E C B

2SC4115SRS



E C B

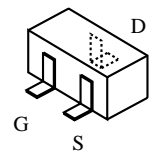
2SA1296GR



B C E

2SA1162GR
2SA1235F
2SC2712GR
2SC2714O
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DTA144EKA
DTA114ES

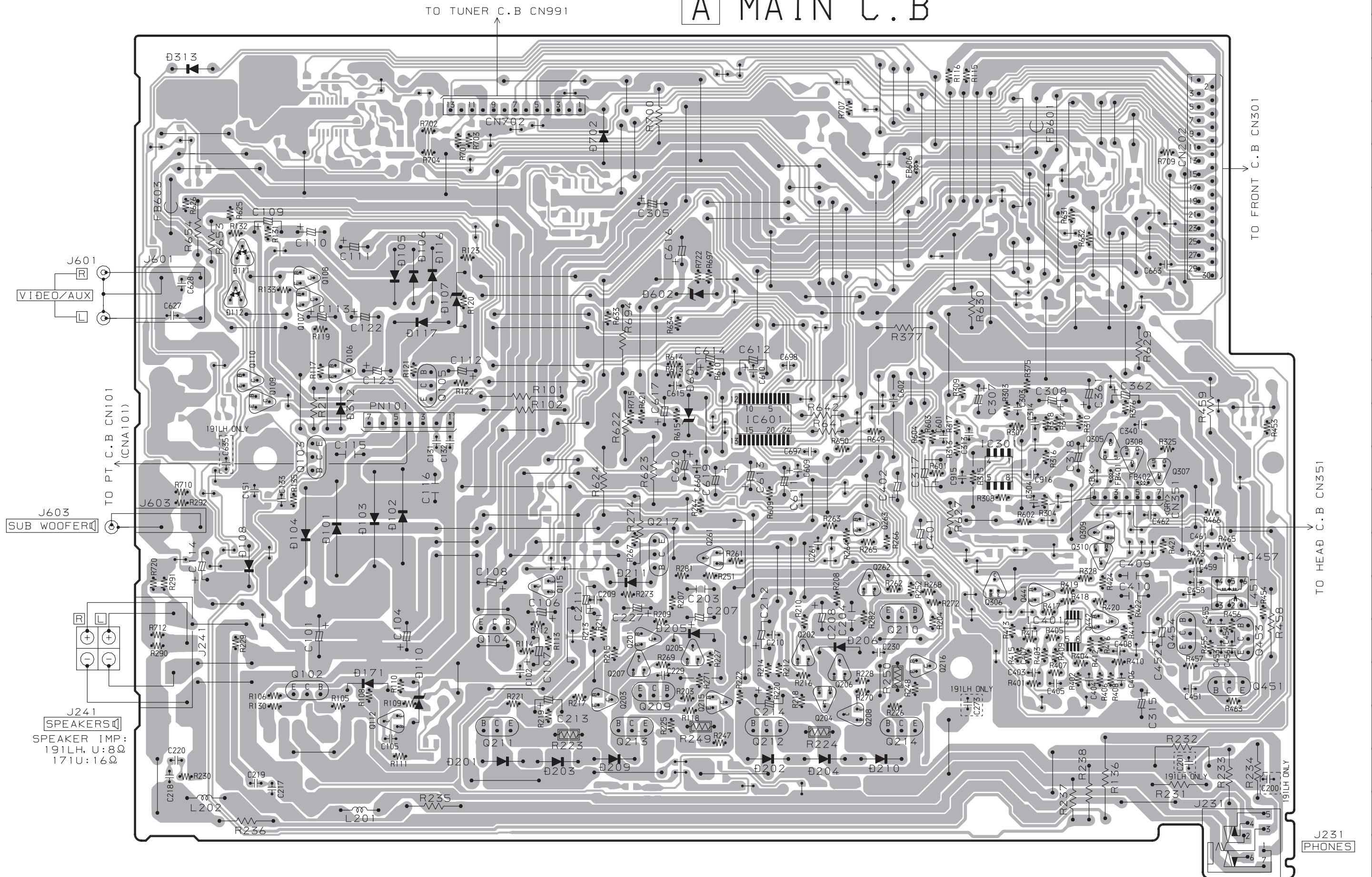
DTA144TKA
DTC114ES
DTC144TKA
KRA107S
RT1P141C



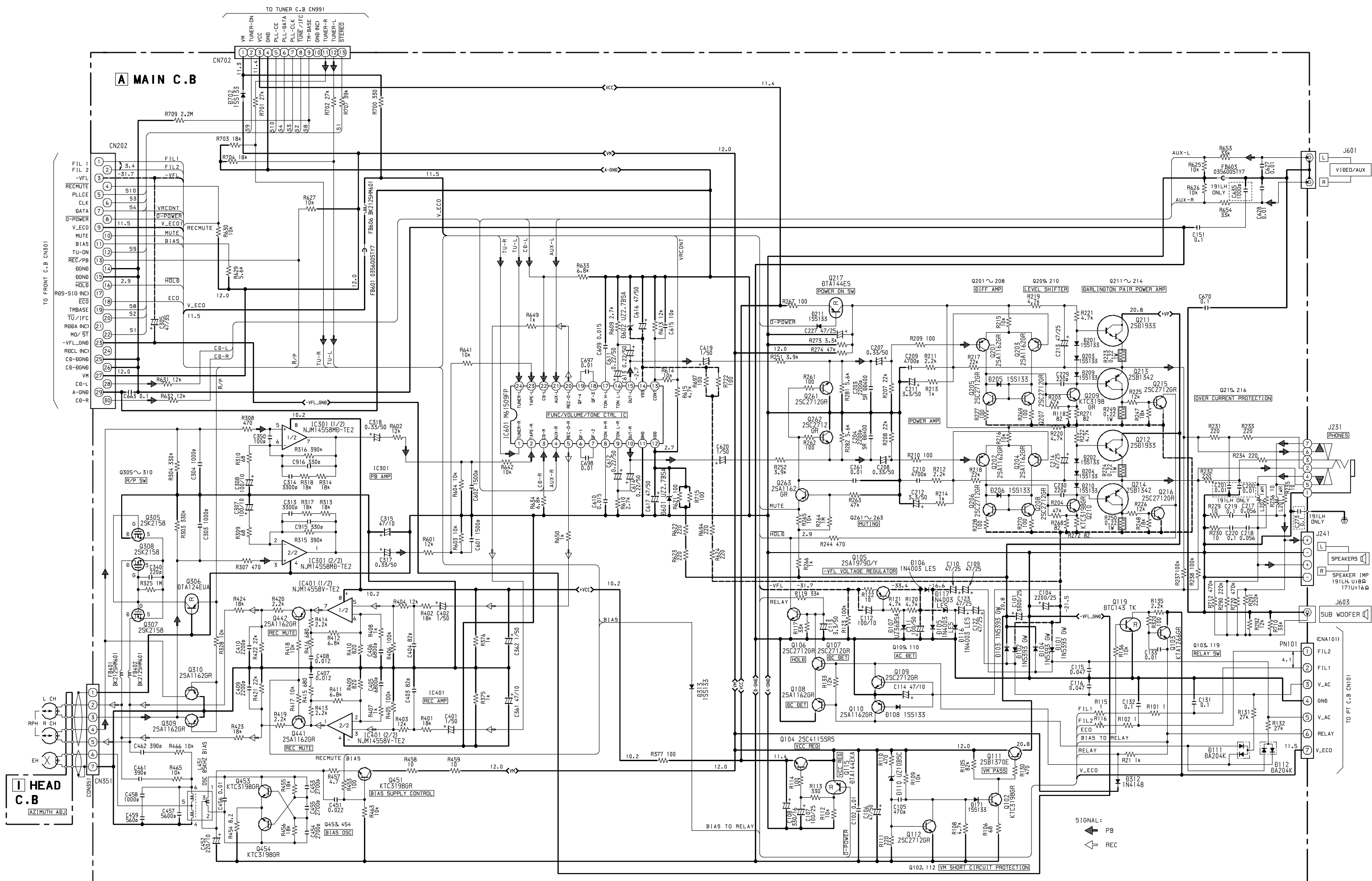
G S D

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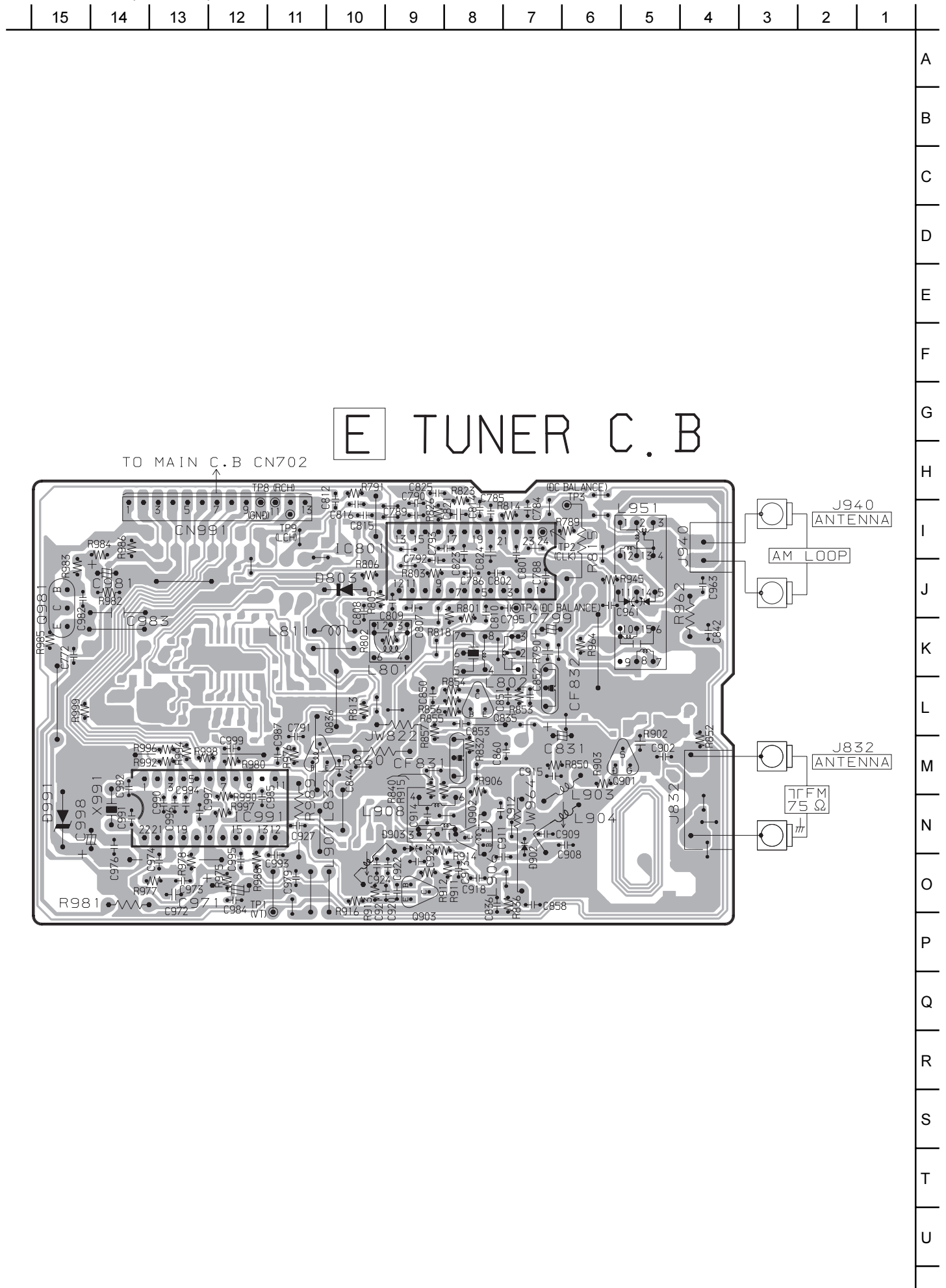
A MAIN C.B



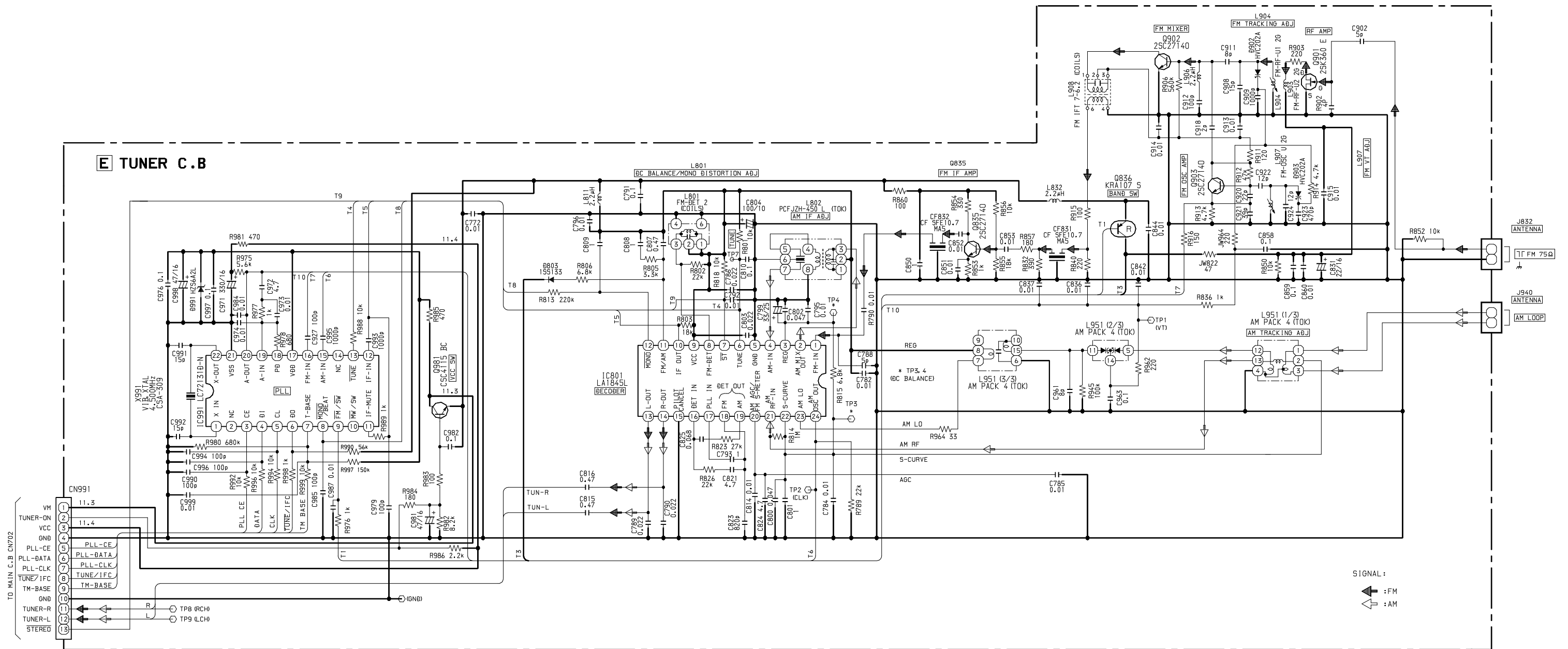
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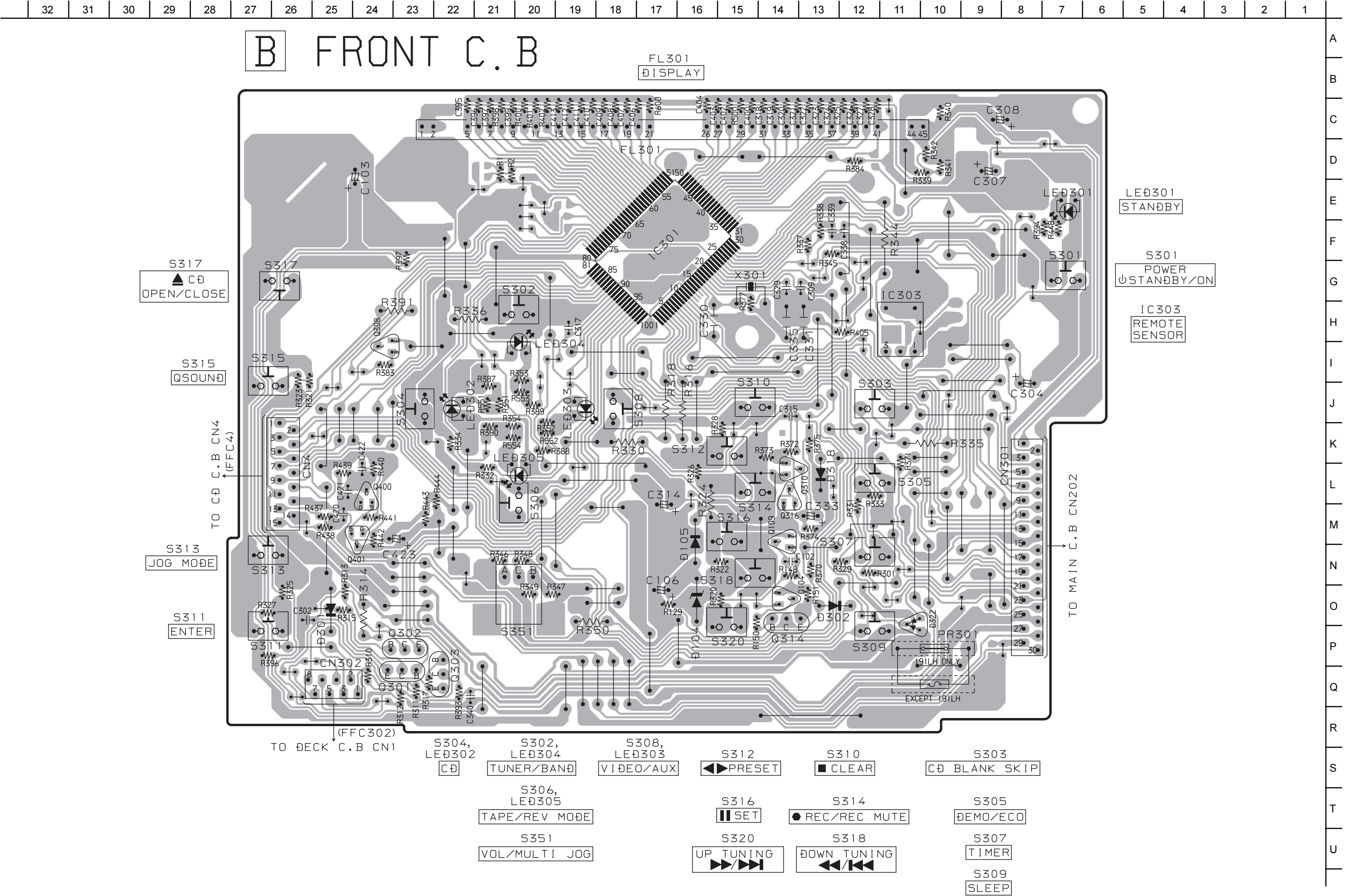


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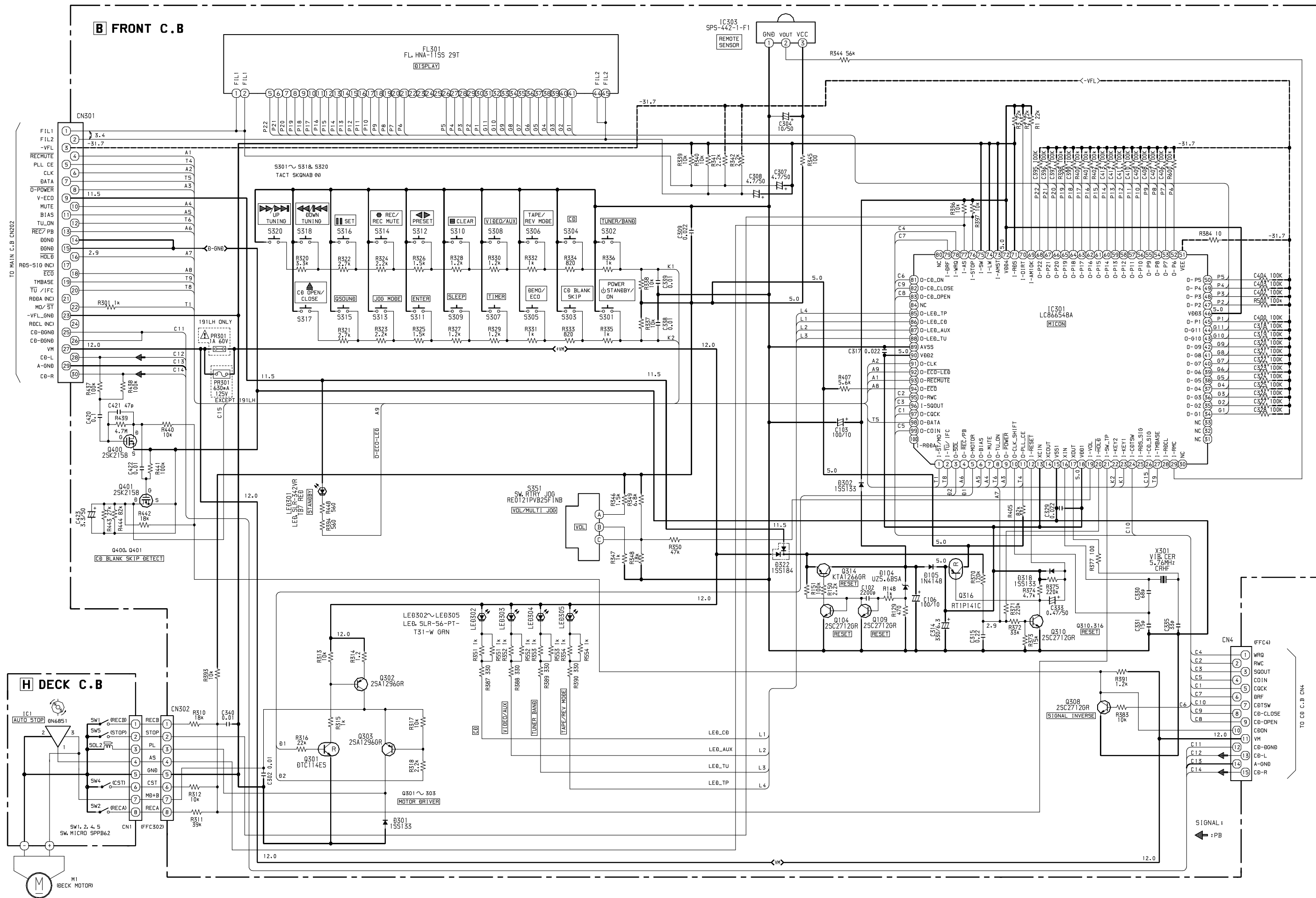


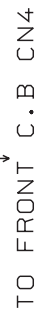
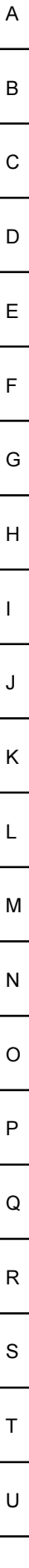
SCHEMATIC DIAGRAM – 2 (TUNER)



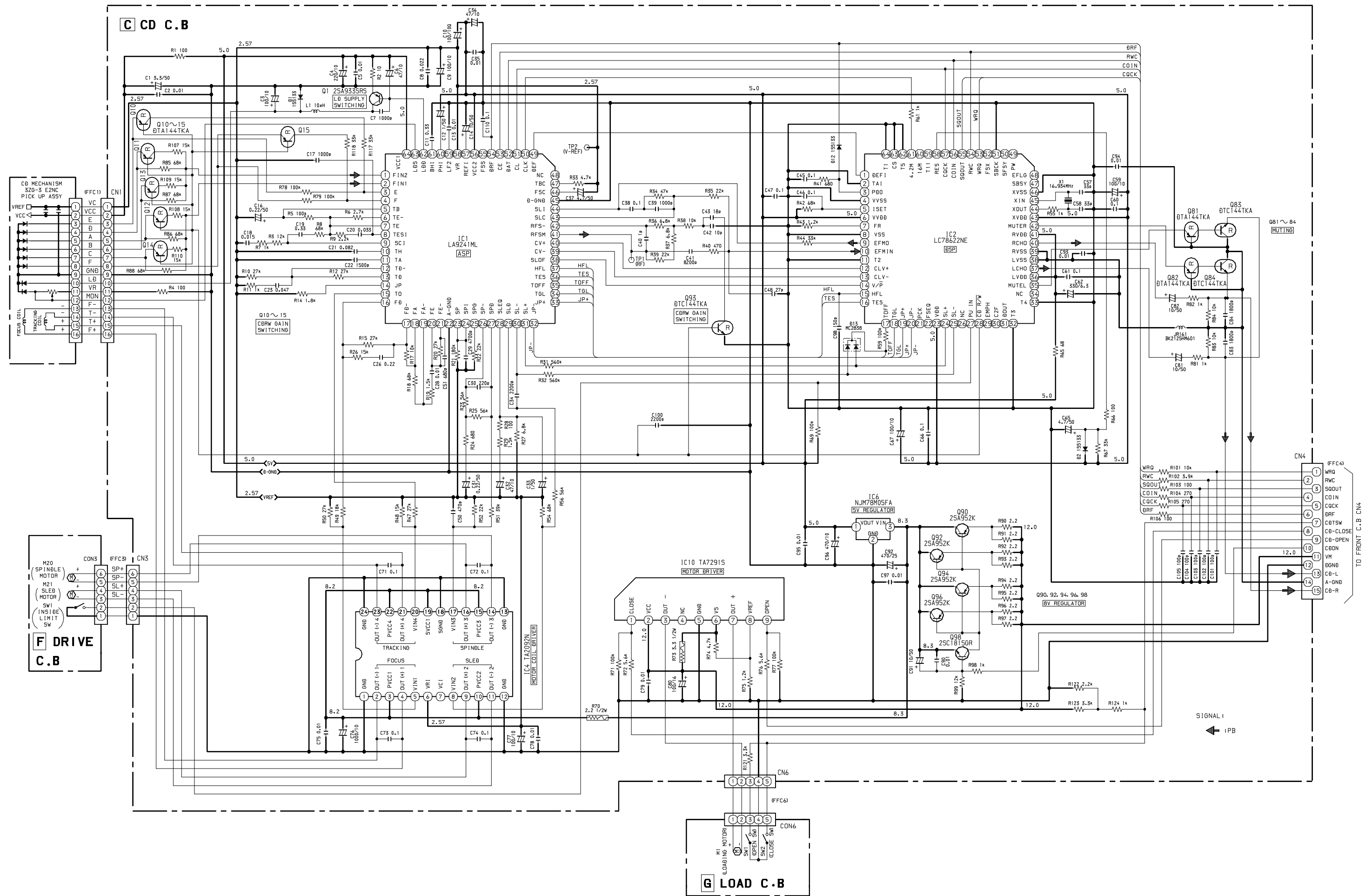


SCHEMATIC DIAGRAM – 3 (FRONT / DECK)

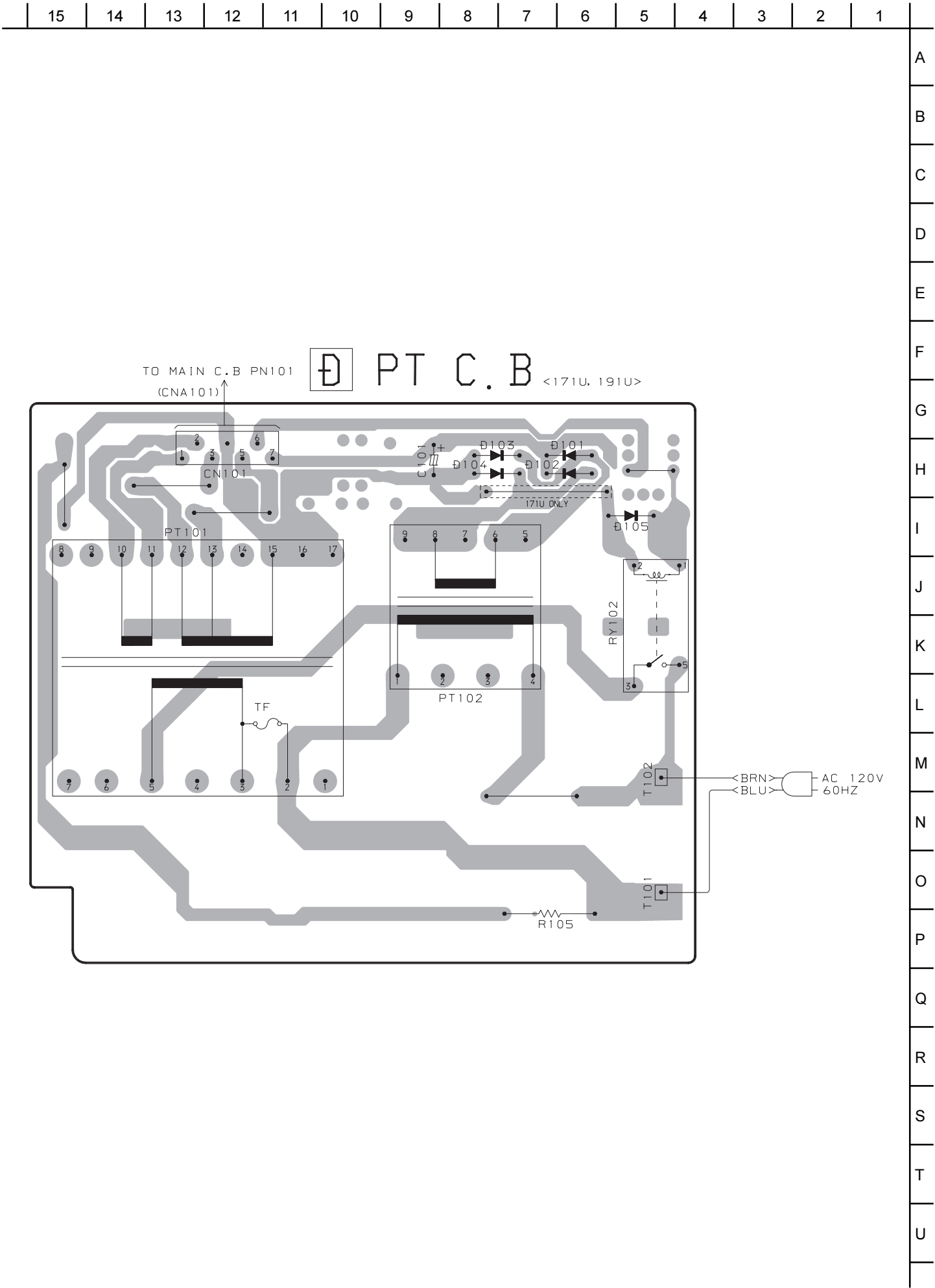


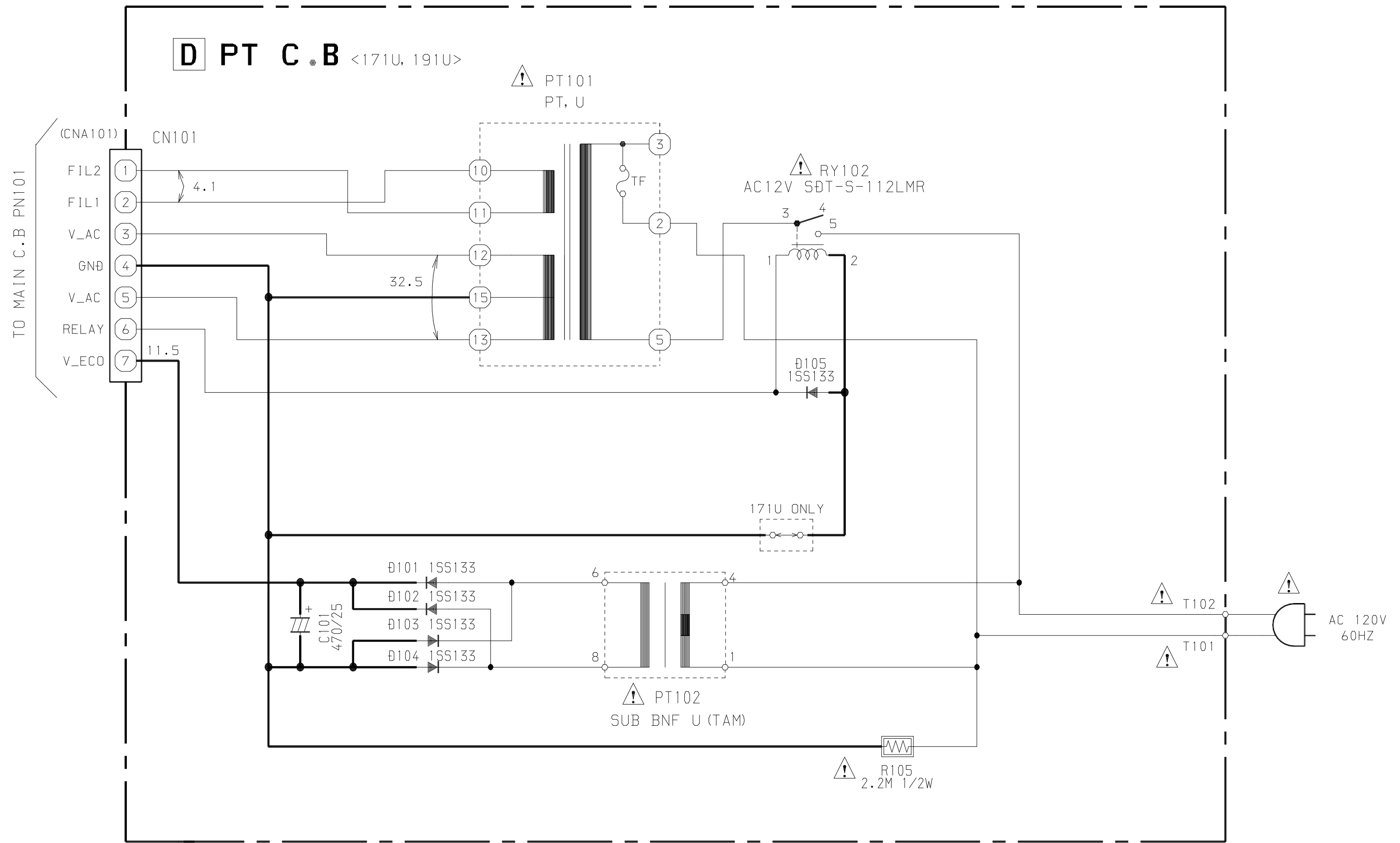


SCHEMATIC DIAGRAM – 4 (CD / DRIVE / LOAD)

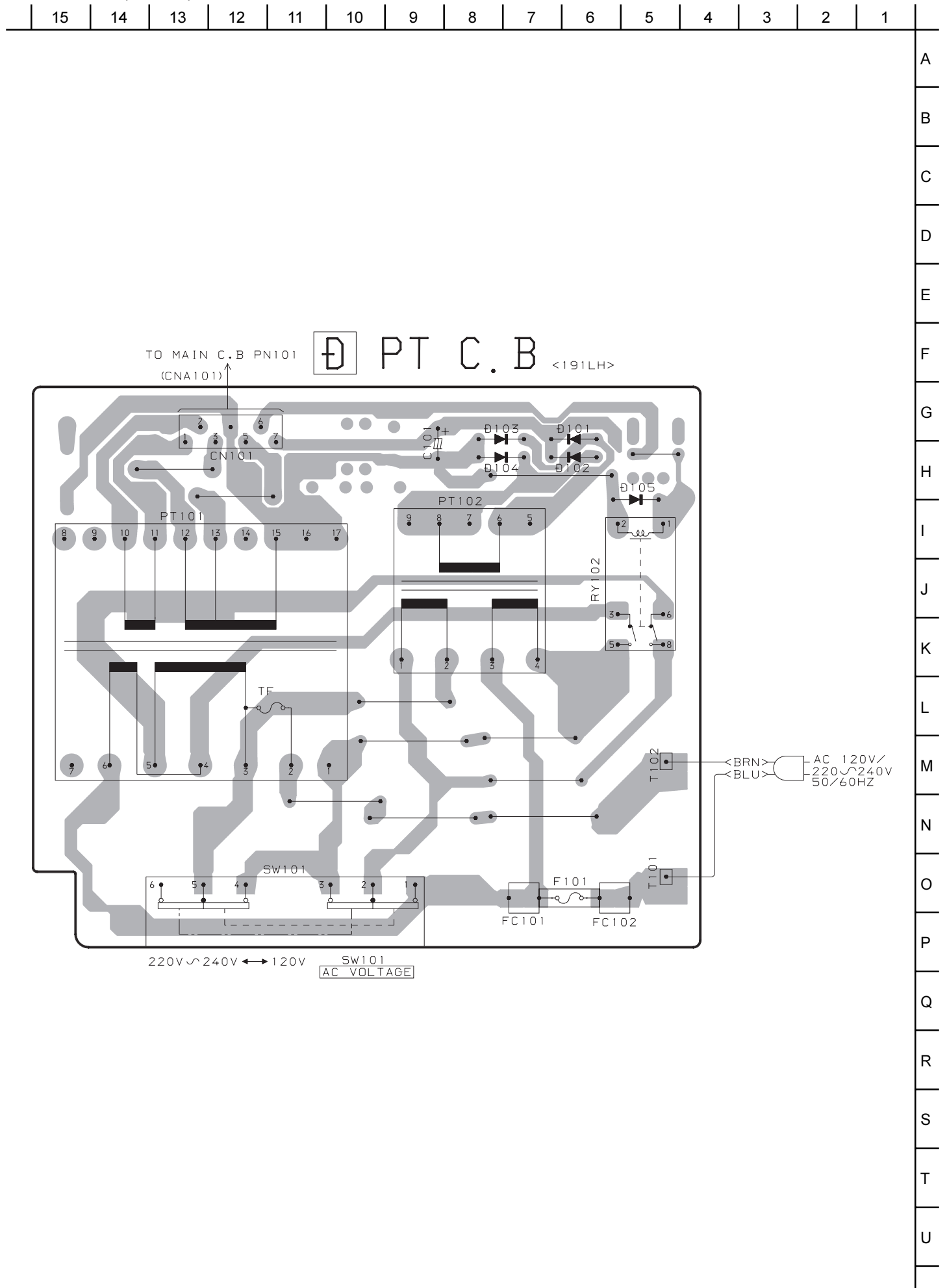


WIRING-5 (PT: U)

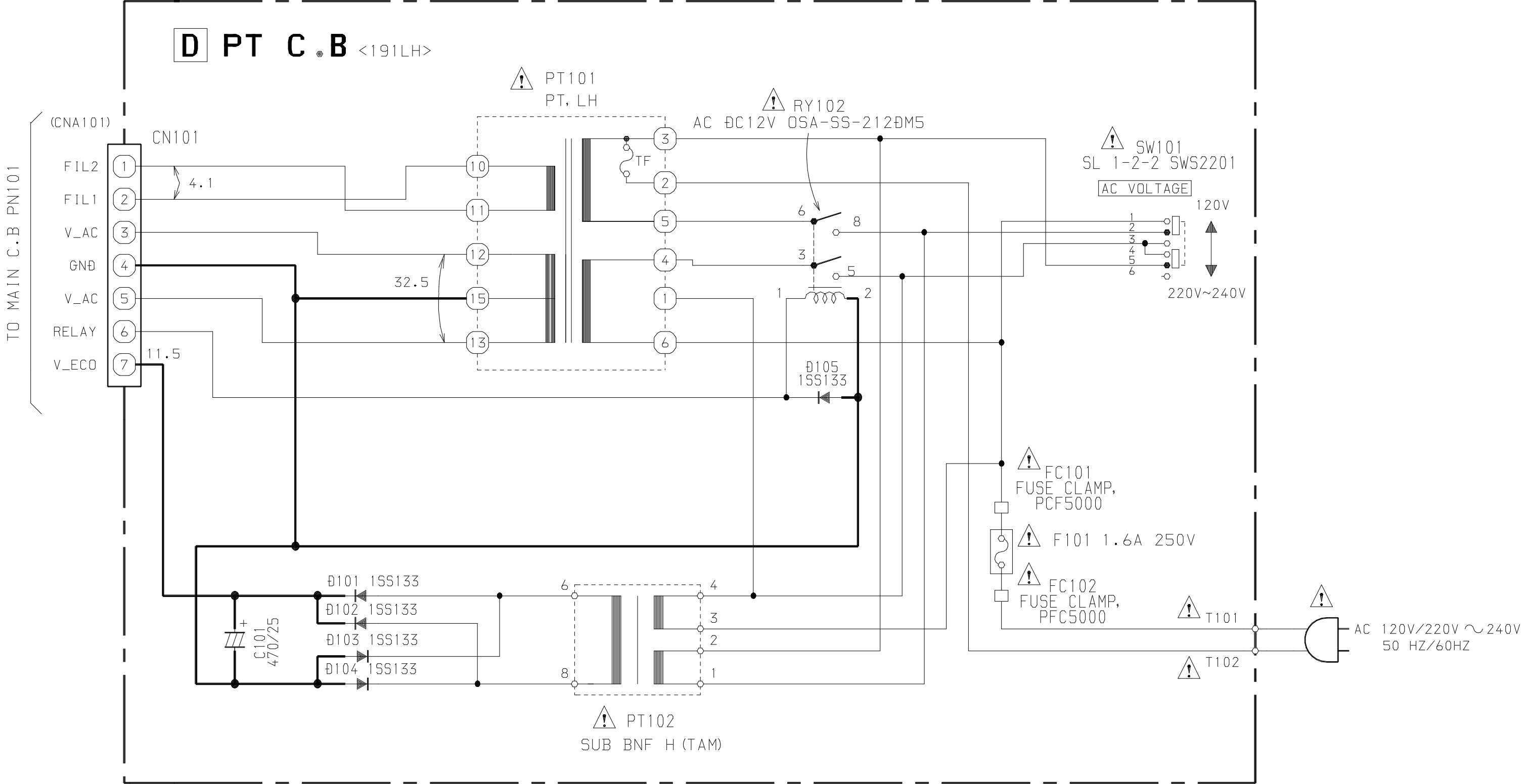




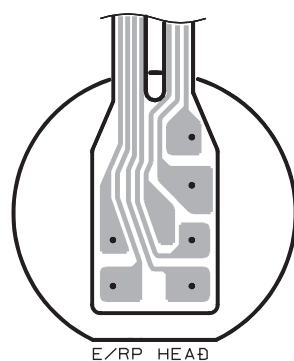
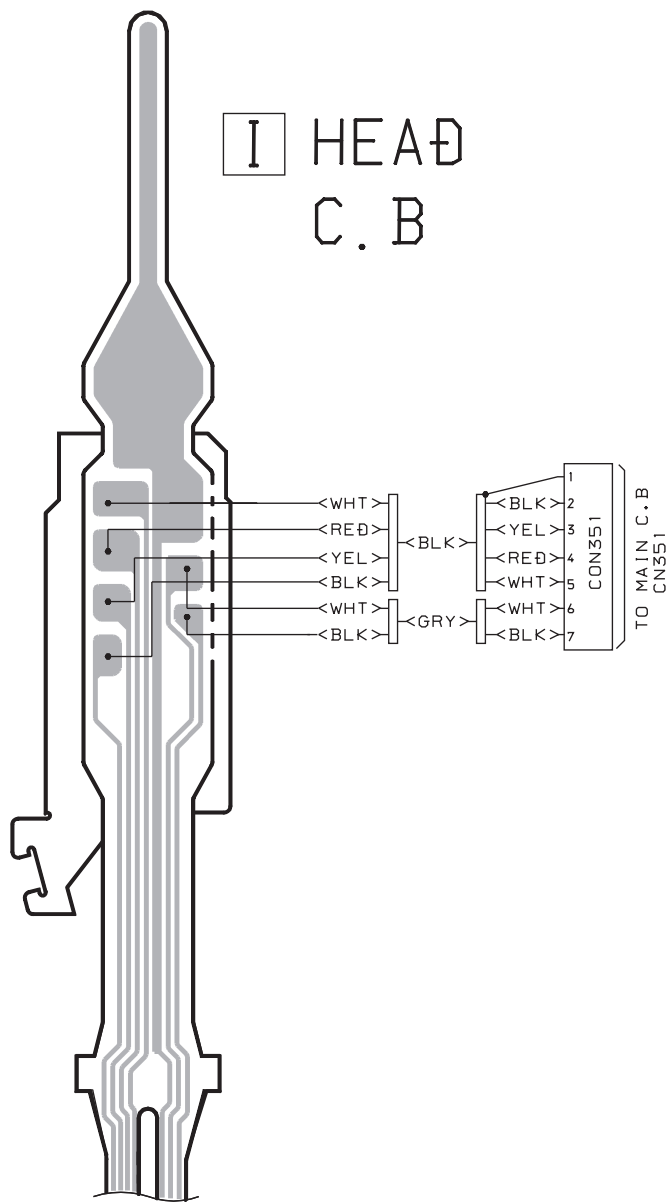
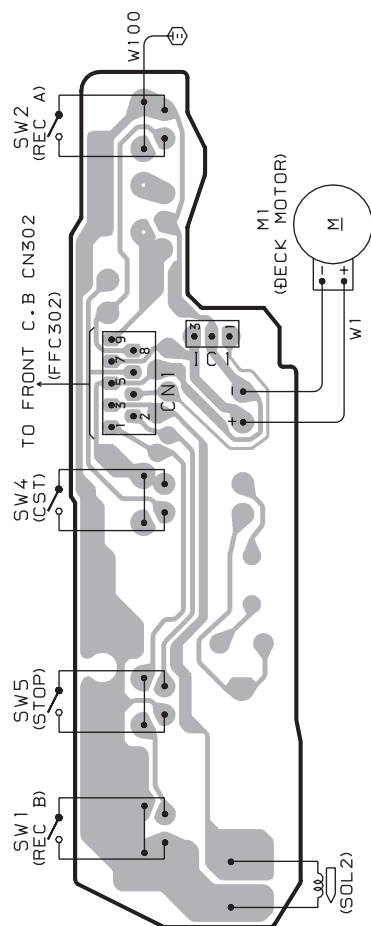
WIRING-6 (PT: LH)



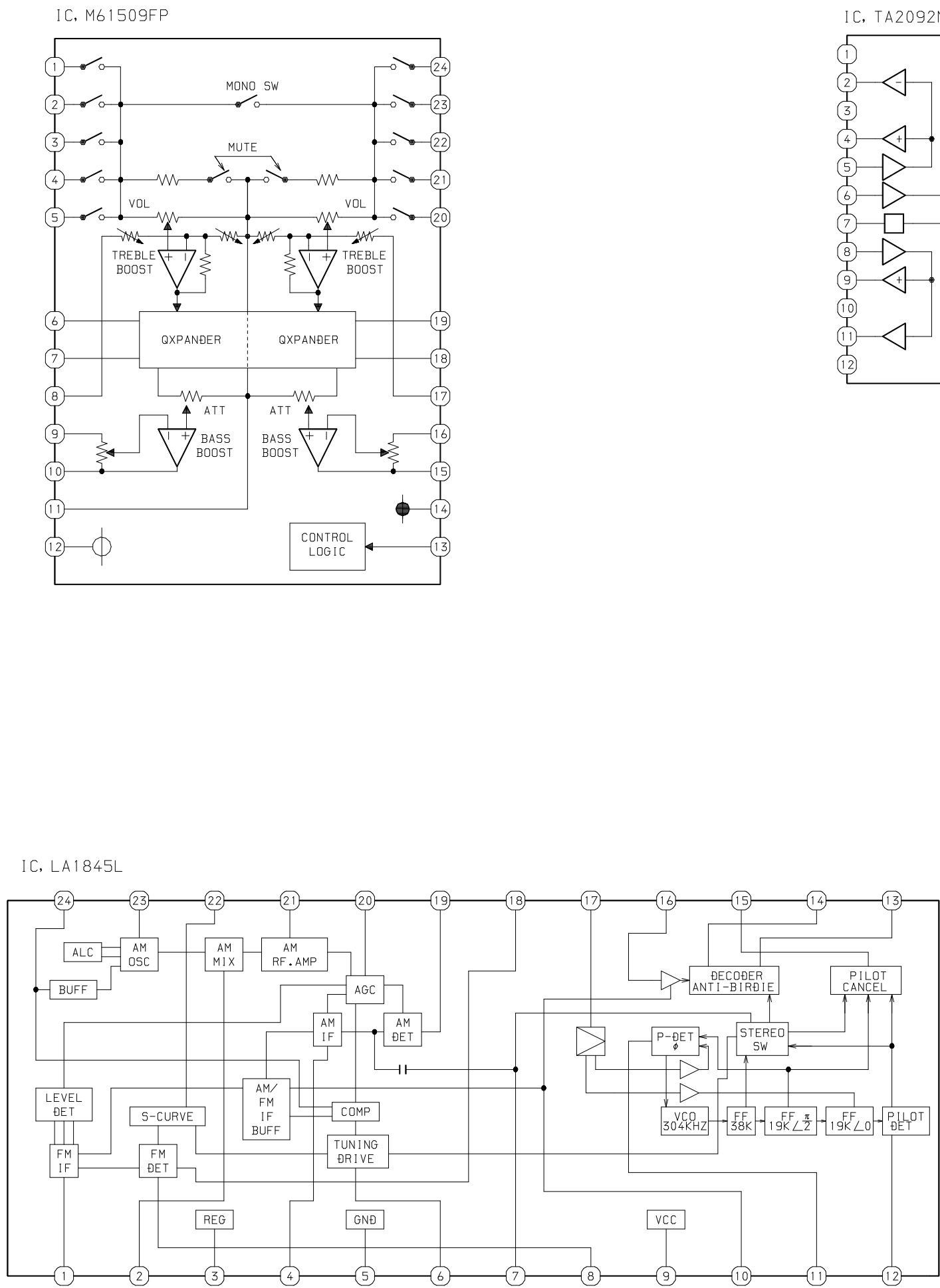
SCHEMATIC DIAGRAM – 6 (PT: LH)



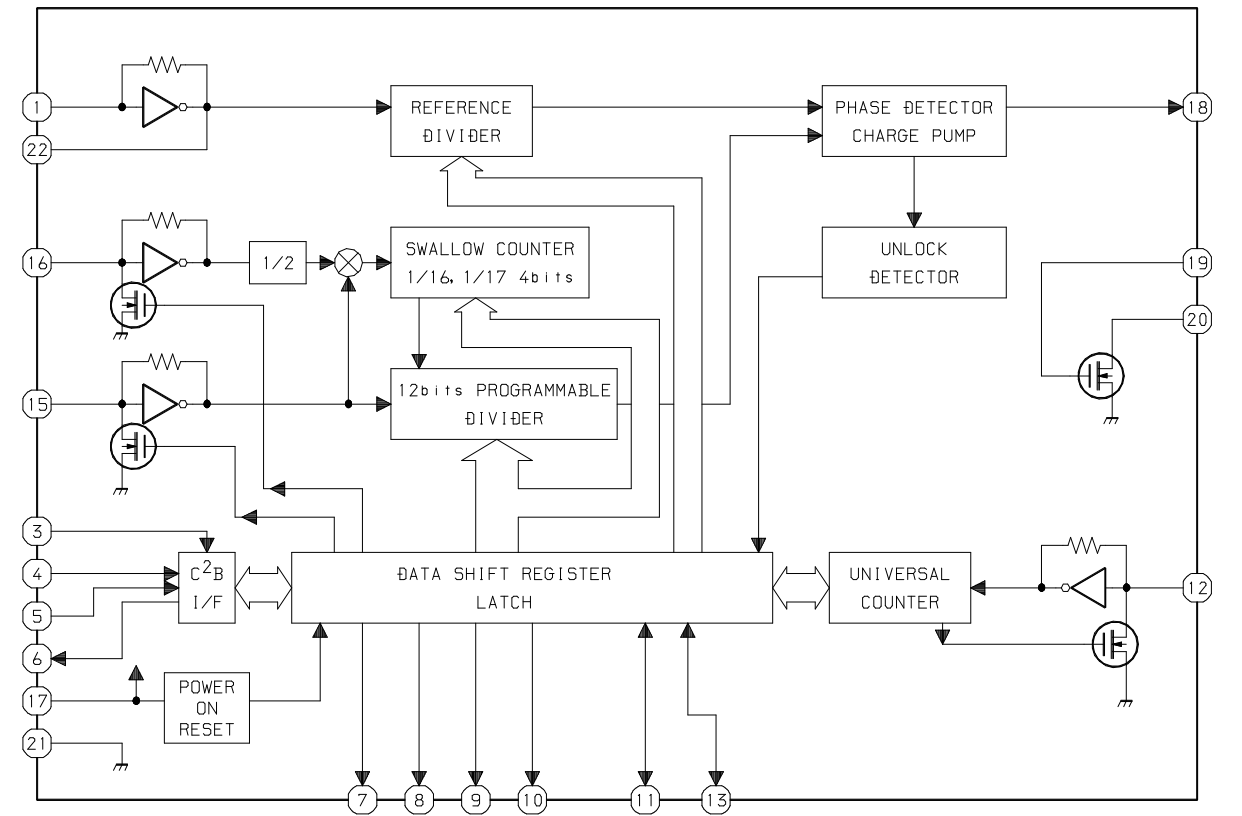
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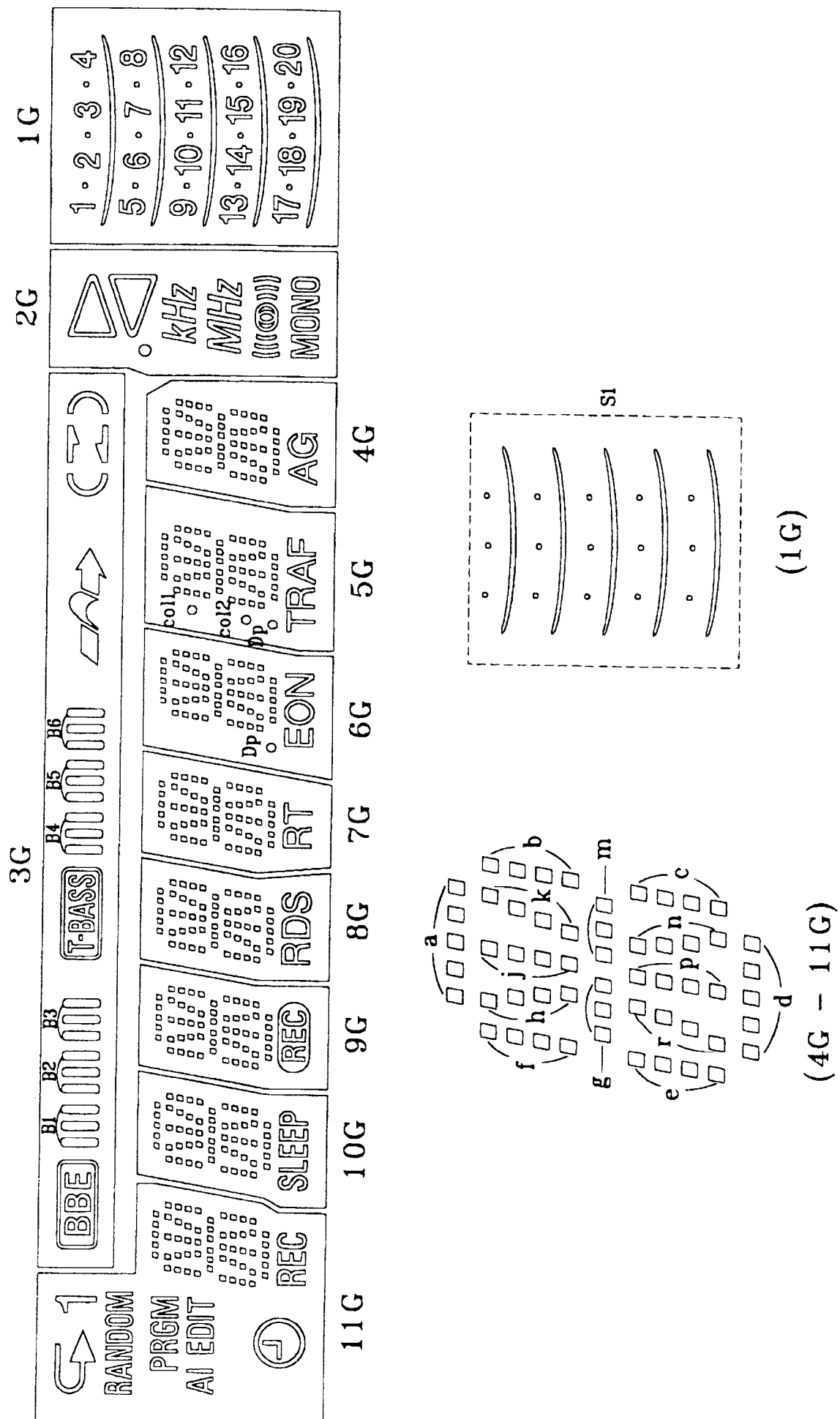
IC BLOCK DIAGRAM



IC, LC72131D-N



FL (HNA-11SS 29T) GRID ASSIGNMENT AND ANODE CONNECTION
GRID ASSIGNMENT



ANODE CONNECTION

	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	REC	SLEEP	(REC)	RDS	RT	EON	TRAF	AG	[BBE]	MONO	20
P2	d	d	d	d	d	d	d	d	B1	(MON)	19
P3	n	n	n	n	n	n	n	n	B2	MHz	18
P4	p	p	p	p	p	p	p	p	B3	kHz	17
P5	r	r	r	r	r	r	r	r	T-BASS	o	16
P6	e	e	e	e	e	e	e	e	B4	◁	15
P7	c	c	c	c	c	c	c	c	B5	▷	14
P8	g	g	g	g	g	g	g	g	B6	—	13
P9	m	m	m	m	m	m	m	m	↔	—	12
P10	f	f	f	f	f	f	f	f	⌒	—	11
P11	b	b	b	b	b	b	b	b	⌒	—	10
P12	k	k	k	k	k	k	k	k)	—	9
P13	j	j	j	j	j	j	j	j	—	—	8
P14	h	h	h	h	h	h	h	h	—	—	7
P15	a	a	a	a	a	a	a	a	—	—	6
P16	RANDOM	—	—	—	—	—	coll	—	—	—	5
P17	⌚	—	—	—	—	—	col2	—	—	—	4
P18	1	—	—	—	—	Dp	Dp	—	—	—	3
P19	PRGM	—	—	—	—	—	—	—	—	—	2
P20	AI	—	—	—	—	—	—	—	—	—	1
P21	EDIT	—	—	—	—	—	—	—	—	—	SI
P22	↩	—	—	—	—	—	—	—	—	—	—

IC DESCRIPTION

IC, LC866548A

Pin No.	Pin Name	I/O	Description
1	I-ST/MO	I	Tuner stereo input.
2	I-TU/IFC	I	Tuner TUNE IFC input.
3	O-SOL	O	Deck solenoid ON/OFF output.
4	O-REC/PB	O	Deck record/playback select output.
5	O-MOTOR	O	Deck motor ON/OFF control output.
6	O-BIAS	O	Record 85 kHz oscillator ON/OFF output.
7	O-MUTE	O	Mute output.
8	O-TU_ON	O	Tuner mode on output.
9	O-POWER	O	Power ON/OFF control output.
10	O-CLK_SHIFT	O	Micon clock shift output.
11	O-PLL_CE	O	PLL chip enable output.
12	I-RESET	I	Micon reset input.
13	XCIN	I	Connected to VDD1.
14	XCOUT	O	Not used.
15	VSS1	-	Digital GND.
16	XIN	I	5.76 MHz Ceralock.
17	XOUT	O	
18	VDD1	-	Power supply.
19	I-VOL	I	Rotary encoder volume A/D input.
20	I-HOLD	I	System hold input A/D input.
21	I-SW_TP	I	Cassette detect switch A/D input.
22	I-KEY2	I	Key2 A/D input.
23	I-KEY1	I	Key1 A/D input.
24	I-CDTSW	I	CD tray switch A/D input.
25	I-RDS_SIG	I	RDS tuning level input. (Not used)
26	I-CD_SIG	I	CD music level input.
27	I-TMBASE	I	Time base clock base (8 Hz) input.
28	I-RDCL	I	RDS clock input. (Not used)
29	I-RMC	I	Remote control data input.
30 ~ 33	NC	-	Not connected.
34 ~ 44	O-G1 ~ G11	O	FL grid G1 ~ G11 output.
45	O-P1	O	FL port P1 output.
46	VDD3	-	Power supply.
47 ~ 50	O-P2 ~ P5	O	FL port P2 ~ P5 output.
51	VEE	-	Power supply.
52 ~ 68	O-P6 ~ P22	O	FL port P6 ~ P22 output.
69	I-AM10K	I	AM10K detect input. (Not used)
59	I-OIRT	I	OIRT detect input. (Not used)
60	I-RDS	I	RDS detect input. (Not used)
61	VDD4	-	Power supply.
62	I-AMST	I	AM stereo detect input. (Not used)

Pin No.	Pin Name	I/O	Description
74	I-LW	I	LW detect input. (Not used)
75	I-SW	I	SW detect input. (Not used)
76	I-STOP	I	Deck stop signal input.
77	I-AS	I	Auto stop signal input.
78	I-WRQ	I	CD WRQ input.
79	I-DRF	I	CD DRF input.
80	NC	-	Not connected.
81	O-CD_ON	O	CD ON/ $\overline{\text{OFF}}$ control output.
82	O-CD_CLOSE	O	CD tray close output.
83	O-CD_OPEN	O	CD tray open output.
84	NC	-	Not connected.
85	O-LED_TP	O	Tape function LED ON/ $\overline{\text{OFF}}$ output.
86	O-LED_CD	O	CD function LED ON/ $\overline{\text{OFF}}$ output.
87	O-LED_AUX	O	Aux function LED ON/ $\overline{\text{OFF}}$ output.
88	O-LED_TU	O	Tuner function LED ON/ $\overline{\text{OFF}}$ output.
89	AVSS	-	Connected to GND.
90	VDD2	-	Power supply.
91	O-CLK	O	Common serial clock output.
92	O-ECO_LED	O	Economical mode LED $\overline{\text{ON}}$ / $\overline{\text{OFF}}$ output.
93	O-RECMUTE	O	Record mute output.
94	O- $\overline{\text{ECO}}$	O	Economical mode ON/OFF output.
95	O-RWC	O	CD control data output.
96	I-SQOUT	I	CD SQOUT input.
97	O-CQCK	O	CD clock output.
98	O-DATA	O	Line out mute output.
99	O-COIN	O	Command to CD DSP output.
100	I-RDDA	I	RDS data input. (Not used)

Pin No.	Pin Name	I/O	Description
1	FIN2	I	Connects to the pickup's photo diode; adding this pin to pin FIN1 generates RF signal, and subtracting it generates FE signal.
2	FIN1	I	Connects to the pickup's photo diode.
3	E	I	Connects to the pickup's photo diode; subtracting this pin from pin F generates TE signal.
4	F	I	Connects to the pickup's photo diode.
5	TB	I	Input for DC component of TE signal.
6	TE–	I	Connects to the resistor between this pin and TE pin for setting the gain of TE signal.
7	TE	O	Output for TE signal.
8	TESI	I	Input for TES (Track Error Sense) comparator, TE signal is band-passed and inputted.
9	SCI	I	Input for shock detection.
10	TH	I	For setting tracking gain time constant.
11	TA	O	TA amplifier output pin.
12	TD–	I	For constructing tracking phase compensation constant between TD and VR pins.
13	TD	O	For setting tracking phase compensation.
14	JP	I	For setting the amplifier of tracking jump signal (kick pulse).
15	TO	O	Output for tracking control signal.
16	FD	O	Output for focusing control signal.
17	FD–	I	For constructing focusing phase compensation constant between FD and FA pins.
18	FA	O	For constructing focusing phase compensation constant between FD– and FA– pins.
19	FA–	I	For constructing focusing phase compensation constant between FA and FE pins.
20	FE	O	Output for FE signal.
21	FE–	I	Connects to the gain-setting resistor of FE signal between this pin and FE pin.
22	A-GND	–	GND for analog signals.
23	SP	O	Single end output of CV+ and CV– pin input signal.
24	SPI		
25	SPG	I	Connects to the gain-setting resistor during spindle 12cm mode.
26	SP–	I	Connects to spindle phase compensation constant together with SPD pin.
27	SPD	O	Output for spindle control signal.
28	SLEQ	I	Connects to sled phase compensation constant.
29	SLD	O	Output for sled control signal.
30	SL–	I	Input for sled-sending signal from microcontroller.
31	SL+	I	Input for sled-sending signal.
32	JP–	I	Input for tracking-jump signal from DSP.
33	JP+		
34	TGL	I	Input for tracking gain control signal from DSP; gain is low if TGL = "H".
35	TOFF	I	Input for tracking off control signal from DSP; off if TOFF = "H".
36	TES	O	Outputs TES signal to DSP.
37	HFL	O	HIGH FREQUENCY LEVEL; used to determine whether the main beam is on a pit or on a mirror.
38	SLOF	I	Input for sled servo off control.

Pin No.	Pin Name	I/O	Description
39	CV-	I	Input for CLV error signal from DSP.
40	CV+		
41	RFSM	O	Output for RF.
42	RFS-	O	For setting RF gain and 3T compensation constant together with RFSM.
43	SLC	O	SLICE LEVEL CONTROL; output for controlling the data slice level of DSP with RF waveform.
44	SLI	I	Input for controlling the data slice level of DSP.
45	D-GND	-	GND for digital system.
46	FSC	O	Output pin for focus search smoothing capacitor.
47	TBC	I	(Tracking Balance Control) EF balance variable range setting pin.
48	NC	-	Not connected.
49	DEF	O	Output for disk defect detection.
50	CLK	I	Standard clock input; DSP's 4.23MHz is inputted.
51	CL	I	Clock input for microcontroller command.
52	DAT	I	Data input for microcontroller command.
53	CE	I	Chip-enable input for microcontroller command.
54	DRF	O	Detect RF; output for RF level detection.
55	FSS	I	(Focus Search Mode) = search/+search against reference voltage switching pin. (Not used)
56	VCC2	-	VCC pin for servo and digital systems.
57	REFI	I	For connecting pass capacitor to reference voltage.
58	VR	O	Reference voltage output.
59	LF2	-	For setting disk defect-detection time constant.
60	PHI	-	Connects to capacitor for RF signal peak hold.
61	BHI	-	Connects to capacitor for RF signal bottom hold.
62	LDD	O	Output for APC circuit.
63	LDS	I	Input for APC circuit.
64	VCC1	-	VCC pin for RF system.

Pin No.	Pin Name	I/O	Description
1	DEFI	I	Defect detection signal (DEF) input.
2	TAI	I	Test input. A pull-down resistor is built in. Must be connected to 0V.
3	PDO	O	External VCO control phase comparator output.
4	VVSS	–	Internal VCO ground. Must be connected to 0V.
5	ISSET	O	PDO output current adjustment resistor connection.
6	VVDD	–	Internal VCO power supply.
7	FR	–	VCO frequency range adjustment.
8	VSS	–	Digital system ground. Must be connected to 0V.
9	EFMO	O	Slice level control; EFM signal output.
10	EFMIN	I	Slice level control; EFM signal input.
11	T2	I	Test input. A pull-down resistor is built in. Must be connected to 0V.
12	CLV+	O	Disc motor control output.
13	CLV–		Three-value output is also possible when specified by microprocessor command.
14	V/P	O	Rough servo/phase control automatic switching monitor output. Outputs a high level during rough servo and a low level during phase control.
15	HFL	I	Track detection signal input. This is a Schmitt input.
16	TES	I	Tracking error signal input. This is a Schmitt input.
17	TOFF	O	Tracking off output.
18	TGL	O	Tracking gain switching output. Increase the gain when low.
19	JP+	O	Track jump output.
20	JP–		Three-value output is also possible when specified by microprocessor command.
21	PCK	O	EFM data playback clock monitor. Outputs 4.3218 MHz when the phase is locked. (Not used)
22	FSEQ	O	Synchronization signal detection output. Outputs a high level when the synchronization signal detected from the EFM signal and the internally generated synchronization signal agree. (Not used)
23	VDD	–	Digital system power supply.
24	SL+	O	Serial data command sled signal output terminal from microprocessor.
25	SL–		
26	NC	–	Not used.
27	PU IN	I	CD pickup inside limit switch.
28	$\overline{\text{CD R/W}}$	O	CD R/W gain $\overline{\text{ON}}$ /OFF signal.
29	EMPH	O	De-emphasis monitor pin. A high level indicates playback of a de-emphasis disk. (Not used)
30	C2F	O	C2 flag output. (Not used)
31	DOUT	O	Digital output (EIAJ format). (Not used)
32	T3	I	Test input. A pull-down resistor is built in. Must be connected to 0V.
33	T4		
34	NC	–	Not connected.
35	MUTEL	O	Left channel one-bit D/A converter mute output.
36	LVDD	–	Left channel one-bit D/A converter power supply.

Pin No.	Pin Name	I/O	Description
37	LCHO	O	Left channel one-bit D/A converter output.
38	LVSS	–	Left channel one-bit D/A converter ground. (Must be connected to 0V)
39	RVSS	–	Right channel one-bit D/A converter ground. (Must be connected to 0V)
40	RCHO	O	Right channel one-bit D/A converter output.
41	RVDD	–	Right channel one-bit D/A converter power supply.
42	MUTER	O	Right channel one-bit D/A converter mute output.
43	XVDD	–	Crystal oscillator power supply.
44	XOUT	O	Connections for a 16.934MHz crystal oscillator element.
45	XIN	I	
46	XVSS	–	Crystal oscillator ground. Must be connected to 0V.
47	SBSY	O	Subcode block synchronization signal output. (Not used)
48	EFLG	O	C1, C2 single and double error correction monitor pin. (Not used)
49	PW	O	Subcode P, Q, R, S, T, U, V and W output. (Not used)
50	SFSY	O	Subcode frame synchronization signal output. This signal falls when the subcode are in the standby state. (Not used)
51	SBCK	I	Subcode readout clock input. This is a Schmitt input. (Must be connected to 0V when unused)
52	FSX	O	Output for the 7.35 kHz synchronization signal divided from the crystal oscillator. (Not used)
53	WRQ	O	Subcode Q output standby output.
54	RWC	I	Readwrite control input. This is a Schmitt input.
55	SQOUT	O	Subcode Q output.
56	COIN	I	Command input from the control microprocessor.
57	CQCK	I	Input for both the command input acquisition clock and the SQOUT pin subcode readout clock input. This is a Schmitt input.
58	$\overline{\text{RES}}$	I	Chip reset pin. (This pin must be set low briefly after power is first applied)
59	T11	O	Test output. Leave open. (Normally outputs a low level). (Not used)
60	16M	O	16.9344 MHz output. (Not used)
61	4.2M	O	4.2336 MHz output.
62	T5	I	Test input. A pull-down resistor is built in. (Must be connected to 0V)
63	$\overline{\text{CS}}$	I	Chip select input. A pull-down resistor is built in. Must be connected to 0V if not controlled.
64	T1	I	Test input. No pull-down resistor. (Must be connected to 0V)

ADJUSTMENT <TUNER / DECK>

< TUNER SECTION >

1. Clock Frequency Check
Settings : • Test point : TP2 (CLK)
Method : Set to AM 1710 kHz and check that the test point is 2160 kHz \pm 45 Hz.
2. AM VT Check
Settings : • Test point : TP1 (VT)
Method : Set to AM 1710 kHz and check that the test point is less than 8.5 V. Then set to AM 530 kHz and check that the test point is more than 0.6 V.
3. AM Tracking Adjustment
Settings : • Test point : TP8 (Rch), TP9 (Lch)
• Adjustment location : L951(1/3)
Method : Set to AM 1000 kHz and adjust L951(1/3) so that the test point becomes maximum.
4. AM IF Adjustment
Settings : • Test point : TP8 (Rch), TP9 (Lch)
• Adjustment location : L802
L802 450 kHz
5. FM VT Adjustment
Settings : • Test point : TP1 (VT)
• Adjustment location : L907
Method : Set to FM 108.0 MHz and adjust the L907 so that the test point is 7.00 V \pm 0.05 V.
6. FM VT Check
Settings : • Test point : TP1 (VT)
Method : Set to FM 87.5 MHz check that the test point is more than 0.5 V.
7. FM Tracking Adjustment
Settings : • Test point : TP8 (Rch), TP9 (Lch)
• Adjustment location: L904
Method : Set to FM 98.0 MHz and adjust L904 so that the test point becomes maximum and distortion to minimum.
8. FM Tracking Check
Settings : • Test point : TP8 (Rch), TP9 (Lch)
Method : Set to FM 98.0 MHz and check that the test point is less than 9 dB μ V.
9. DC Balance / Mono Distortion Adjustment
Settings : • Test point : TP3, TP4 (DC Balance)
TP8 (LCH), TP9 (RCH)
(Mono Distortion)
• Adjustment location : L801
• Input level : 60 dB μ V
Method : Set to FM 98.0 MHz and adjust L801 so that the voltage between TP3 and TP4 becomes 0 V \pm 500 mV with minimum distortion.
10. Output Level Check
<AM>
Settings : • Test point : TP8 (Rch), TP9 (Lch)
• Input level : 74 dB μ V
Method : Set to AM1000 kHz and check that the test point is 55 mV \pm 3 dB.

<FM>
Settings : • Test point : TP8 (Rch), TP9 (Lch)
• Input level : 60 dB μ V
Method : Set to FM 98.0MHz and check that the test point is 270 mV \pm 3 dB.

11. FM Separation Check
Settings : • Test point : TP8 (Rch), TP9 (Lch)
• Input level : 60 dB μ V
Method : Set to FM 98.0 MHz and check that the separation more than 25 dB.

< DECK SECTION >

1. Tape Speed Check
Settings : • Test tape : TTA-100
• Test point : SP OUT
Method : Play back the test tape and check the test point is 3000 Hz \pm 5 Hz (FWD) and FWD speed \pm 45 Hz (REV).
2. Head Azimuth Adjustment
Settings : • Test tape : TTA-330
• Test point : SP OUT
• Adjustment location : Head azimuth adjustment screw
Method : Play back (FWD) the 8 kHz signal of the test tape and adjust screw so that the output becomes maximum. Next, perform on REV PLAY mode.
3. PB Frequency Response Check
Settings : • Test tape : TTA-320
• Test point : SP OUT
Method : Play back the 315 Hz and 10 kHz signals of the test tape and check that the output ratio of the 10 kHz signal with respect to that of the 315 Hz signal is -3 dB \pm 3 dB.
4. REC/PB Frequency Response Check
Settings : • Test tape : TTA-602
• Test point : SP OUT
• Input signal : 8 kHz/1 kHz (-20 VU / 0dB)
Method : Apply a 1 kHz signal and REC mode. Record and play back the 1 kHz signals and check that the output is -2 dB \pm 3 dB.

CD TEST MODE

1. How to Activate CD Test Mode

While pressing the CD function button, insert the AC plug to the outlet.
All FL display will light up.

2. How to Cancel CD Test Mode

Exit the CD test mode by any of the following procedures.

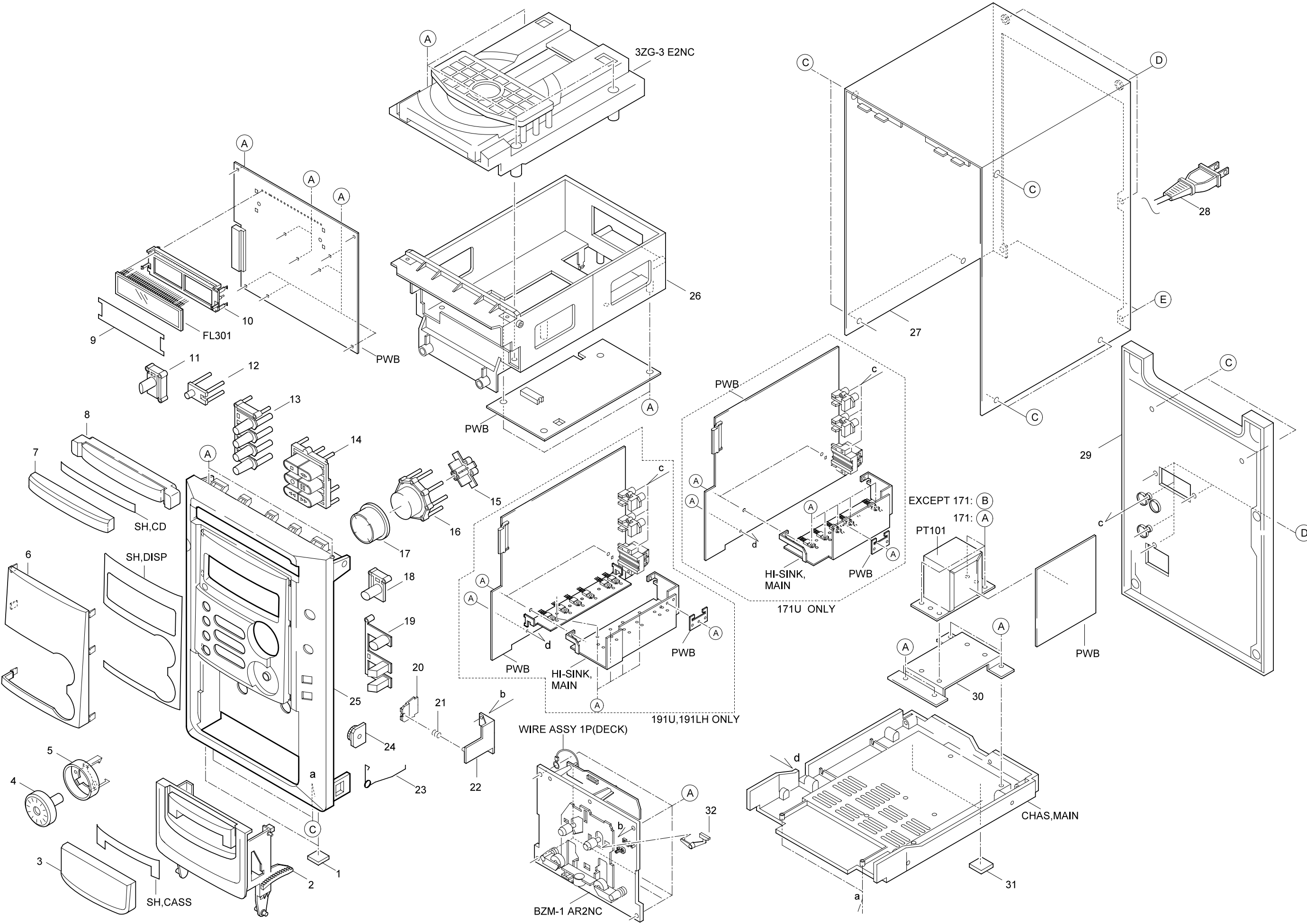
- Press the function button (except the CD function button.)
- Press the power button.
- Disconnect the AC plug.

3. CD Test Mode functions

No	Mode	Operation	FL Display	Operation	Checking item
1	Start mode		All lit		<ul style="list-style-type: none">• FL item• Microprocessor
2	Search mode (without DISC)	PLAY button	Normal	<ul style="list-style-type: none">• Laser diode illuminated under normal circumstances• Continuous focus search *1• Continuous spindle motor kick	<ul style="list-style-type: none">• APC circuit• Laser current• Focus search waveform• Focus error waveform (DRF are not monitored in the search mode)
3	Play mode	PLAY button	Normal	<ul style="list-style-type: none">• Normal playback• If TOC cannot be read, focus search is continued	<ul style="list-style-type: none">• Each servo circuit• DRF
4	Sled mode	FF button		<ul style="list-style-type: none">• Pickup move to the innermost track *2	<ul style="list-style-type: none">• Sled circuit• Mechanism• Pickup
		RWD button		<ul style="list-style-type: none">• Pickup moves to the outermost track *2	

*1: The driver IC heats up and the protection circuit starts working when the focus search is continued for 10 minutes or longer.
There can be a case that operations cannot be performed correctly.
In such a case, turn off the main power. After cooling down the machine, restart the machine.

*2: Be careful not to damage the gear because the sled motor rotates while the FF or RWD button is being pressed even if the pick-up is located in the innermost track or the outermost track.

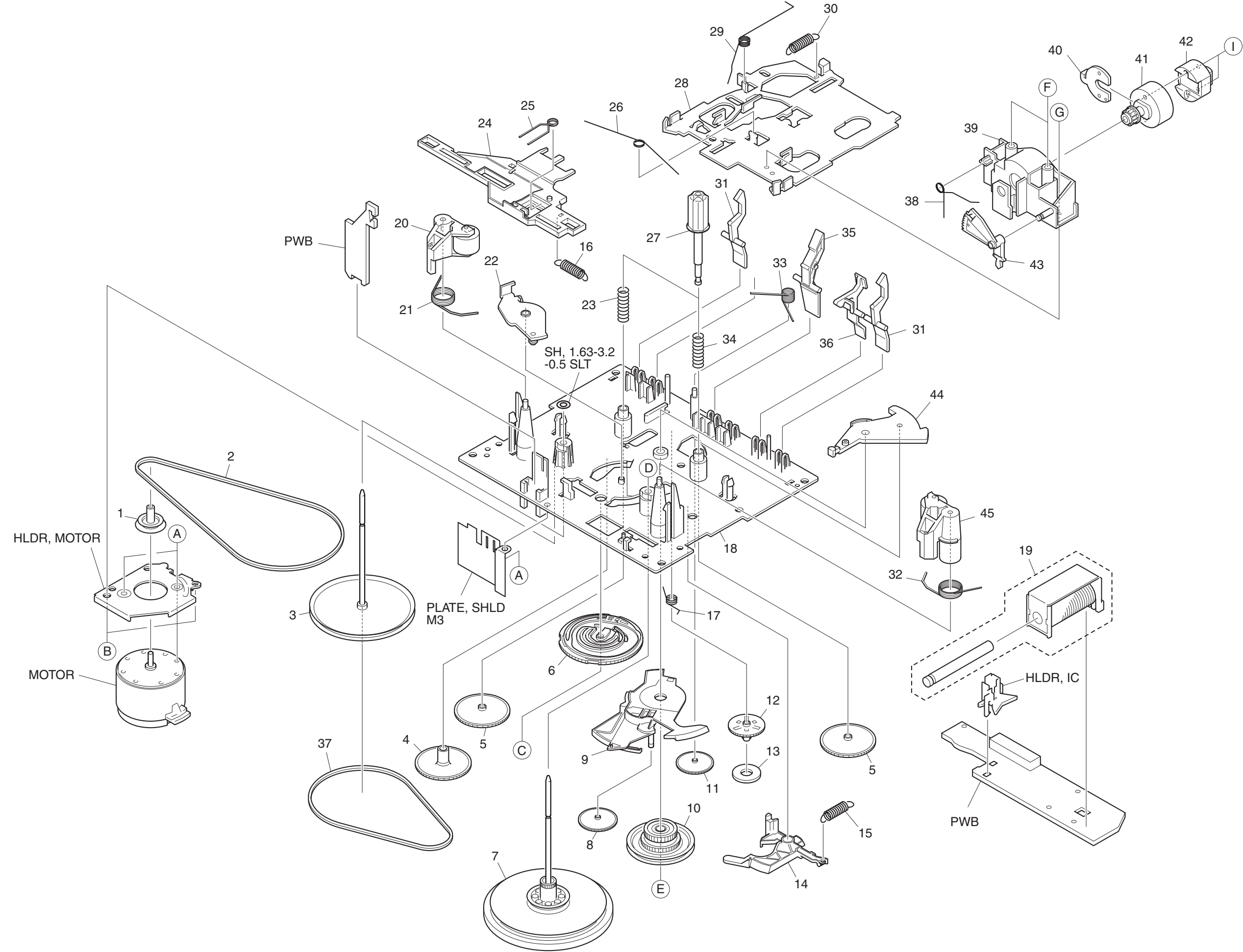


MECHANICAL PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	88-CL4-215-010		CUSH, FOOT FR	21	86-NF9-224-010		SPR-C, LOCK
2	8B-CL9-046-010		BOX, CASS M191	22	87-NF4-217-110		HLDR, LOCK 2
3	8B-CL9-052-010		WINDOW, CASS	23	88-CL4-220-010		SPR-T, CASS
4	8B-CL9-080-010		KNOB, RTRY VOLUME	24	87-NF8-220-010		DMPR, 150
5	8B-CL9-077-010		RING, VOLUME	25	8B-CL9-001-010		CABI, FRONT
6	8B-CL9-051-010		WINDOW, DISP	26	8B-CL9-204-010		HLDR, CD
7	8B-CL9-032-010		WINDOW, CD	27	8B-CL9-026-010		CABI, TOP
8	8B-CL9-031-010		PANEL, CD	△ 28	87-A80-092-010		AC CORD ASSY, E BLK SUN FAI<LH>
9	8A-MA6-203-010		PLATE, FL	△ 28	87-A80-110-010		AC CORD ASSY, U SPT-2W<U>
10	82-NF7-210-110		GUIDE, FL (*)	29	8B-CL9-012-010		PANEL, REAR LHSC<LH>
11	8B-CL9-060-010		KEY ASSY, POWER	29	8B-CL9-011-010		PANEL, REAR USC<U>
12	8B-CL9-088-010		LENS, REMOTE-C	30	8A-CL9-211-110		HLDR, TRANS
13	8B-CL9-064-010		KEY, DEMO	31	88-CL4-216-010		CUSH, FOOT REAR
14	8B-CL9-065-010		KEY, CONTROL	32	82-ZM1-264-010		LVR, EJECT R
15	8B-CL9-201-010		GUIDE, FUNC	A	87-067-703-010		TAPPING SCREW, BVT2+3-10
16	8B-CL9-066-010		KEY ASSY, FUNC	B	87-581-170-410		UIT+4-8
17	8B-CL9-076-010		RING, FUNC	C	87-B10-231-010		QT1+3-12 SILVER CR
18	8B-CL9-062-010		KEY, OPEN	D	87-B10-230-010		BVT2+3-10 W/O SLOT SILVER CR
19	8B-CL9-063-010		KEY, Q-SOUND	E	87-B10-250-010		BVT2+3-12 W/O SLOT CR SILVER
20	82-NF5-229-010		PLATE, LOCK				

COLOR NAME TABLE

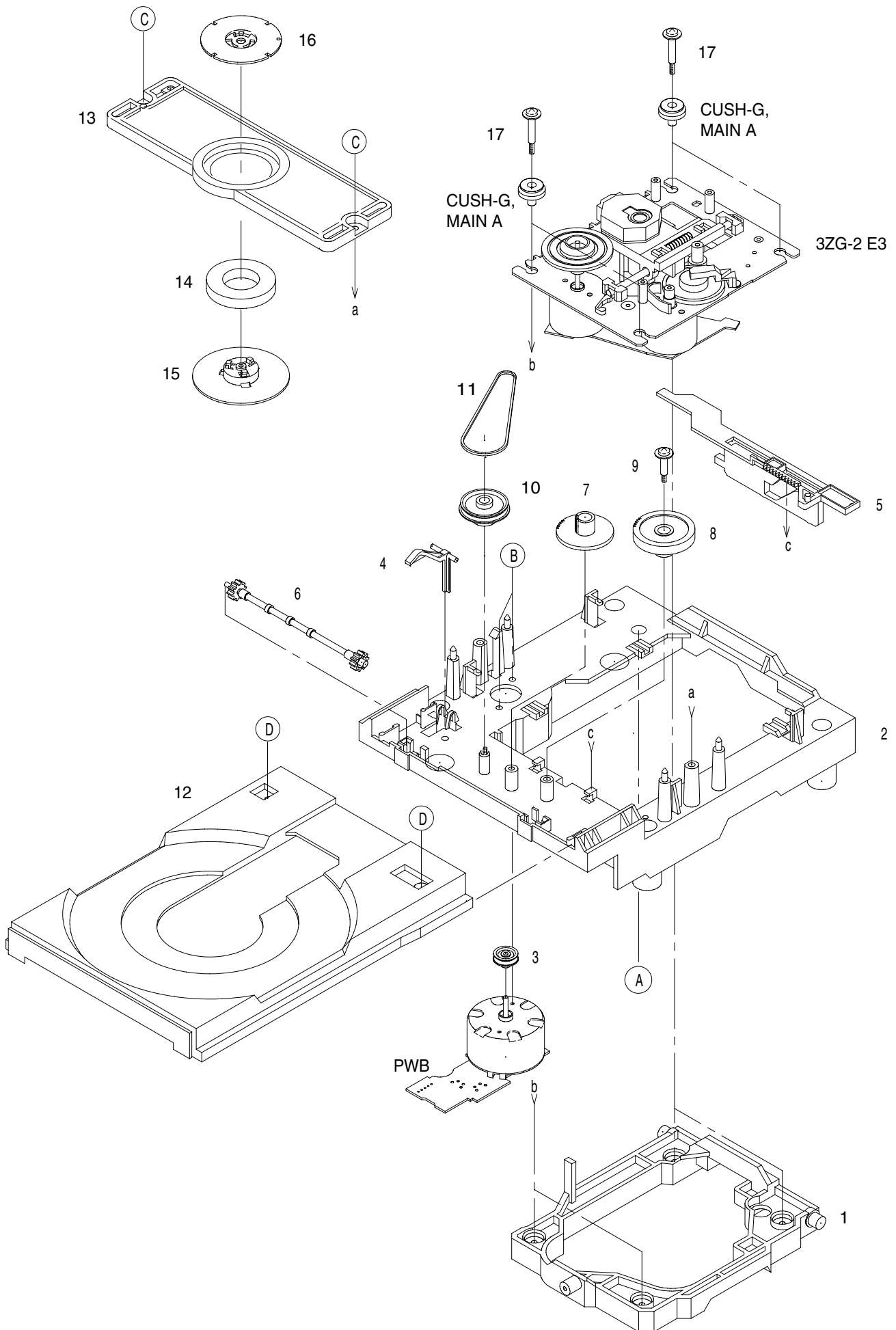
Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange	PT	Transparent Pink
LA	Aqua Blue	GL	Light Green	HT	Transparent Gray



TAPE MECHANISM PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM1-271-010		PULLEY,MOT ZM-1	31	82-ZM1-240-110		LVR, REC (*)
2	82-ZM1-354-010		BELT, SBU MAIN2 EPDM	32	82-ZM1-259-310		SPR-T, PINCH R
3	82-ZM1-234-310		FLY-WHL ASSY, L	33	82-ZM1-257-010		SPR-T, CAS
4	82-ZM1-226-010		GEAR, REW	34	82-ZM1-285-410		SPR-C, BT L
5	82-ZM1-216-510		GEAR, REEL	35	82-ZM1-242-010		LVR, CAS
6	82-ZM1-221-310		GEAR, CAM (*)	36	82-ZM1-243-010		LVR, STOP
7	82-ZM1-237-610		FLY-WHL ASSY, R	37	82-ZM1-338-110		BELT, FR 4
8	82-ZM1-225-210		GEAR, FR	38	82-ZM3-353-010		SPR-T, HEAD 2
9	82-ZM1-224-410		LVR, FR	39	82-ZM1-207-910		GUIDE, TAPE
10	82-ZM3-333-310		SLIP DISK ASSY 2	40	82-ZM1-314-110		PLATE, HEAD
11	82-ZM1-223-010		GEAR, PLAY	41	82-ZM1-208-310		HLDR, HEAD
12	82-ZM1-220-210		GEAR, IDLER	42	87-A92-146-010		HEAD, RPH HADKH5665A FPC
13	82-ZM3-616-010		RING MAGNET 4	43	82-ZM1-210-110		GEAR, H T
14	82-ZM1-227-310		LVR, TRIG	44	82-ZM1-222-310		LVR, PLAY (*)
15	82-ZM1-305-210		SPR-E, TRIG 2	45	82-ZM1-362-010		LEVER, ASSY PINCH RD
16	82-ZM1-255-310		SPR-E, LVR DIR	A	87-251-070-410		U+2.6-3
17	82-ZM1-322-010		SPR-T, FR 60	B	87-741-073-410		UT2+2.6-6 GLD
18	82-ZM1-358-110		CHAS ASSY, FPC	C	87-B10-008-010		W-P, 2.08-8-0.4-SLIP
19	82-ZM3-628-010		SOL ASSY, 23 SO	D	80-ZM6-243-010		SH 1.75-3.6-0.5 SLT
20	82-ZM1-363-010		LEVER, ASSY PINCH LD	E	82-ZM3-334-010		PW 2.16-6-0.4
21	82-ZM1-258-210		SPR-T, PINCH L	F	86-ZM4-206-110		S-SCREW, AZIMUTH L
22	82-ZM1-333-210		PLATE, LINK2	G	85-ZM3-202-010		S-SCREW, TG
23	82-ZM1-244-510		SPR-C, BT	H	82-ZM3-222-010		S-SCREW, SHILD PLATE
24	82-ZM1-266-310		LVR, DIR	I	80-ZM6-207-010		V+1.6-7
25	82-ZM1-214-010		SPR-T, DIR				
26	82-ZM1-269-210		SPR-T, BRG				
27	82-ZM1-217-410		REEL TABLE				
28	82-ZM1-206-910		CHAS, HEAD				
29	82-ZM1-219-110		SPR-T, LINK				
30	82-ZM1-218-010		SPR-E, HB				

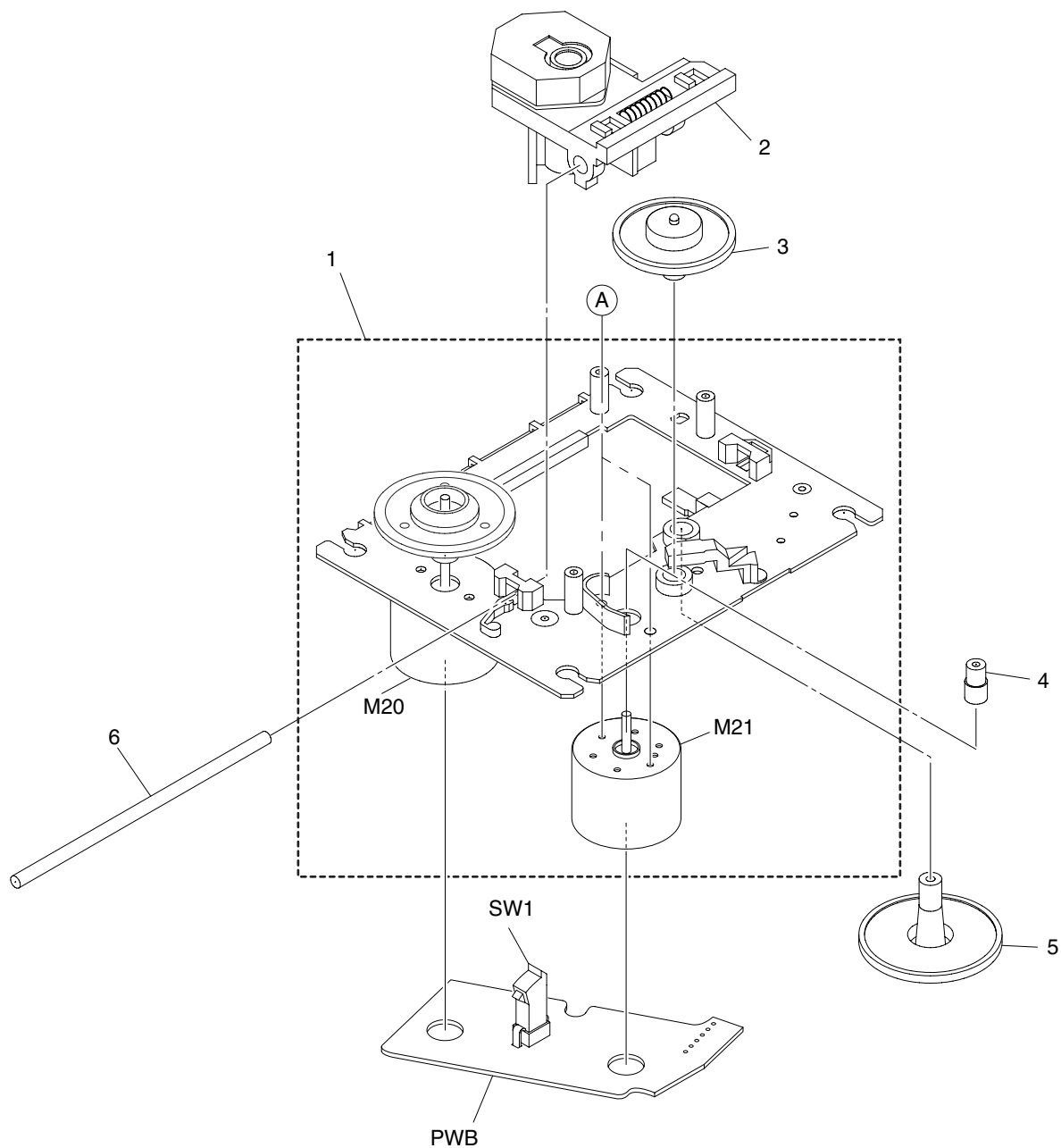
CD MECHANISM EXPLODED VIEW 1 / 2



CD MECHANISM PARTS LIST 1 / 2

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG3-224-510		HLDR M2
2	83-ZG3-228-610		CHAS, L6
3	83-ZG3-208-010		PULLEY, MOTOR
4	83-ZG3-213-010		LVR, SW
5	83-ZG3-209-610		CAM, SLIDE
6	83-ZG3-207-010		GEAR, TRAY
7	83-ZG3-204-210		GEAR, C
8	83-ZG3-205-010		GEAR, D
9	83-ZG3-217-010		S-SCREW, GEAR D
10	83-ZG3-220-210		GEAR, PULLEY 2
11	83-ZG3-214-010		BELT, L
12	83-ZG3-229-410		TRAY, CD 2
13	83-ZG3-210-110		HLDR, CHUCK
14	83-ZG3-602-010		RING, MAG
15	83-ZG3-212-010		CAP, DISC
16	83-ZG3-211-010		PLATE, DISC
17	81-ZG1-254-010		S-SCREW, MECH HLDR
A	87-067-945-110		VFT2+3-12 (F10)
B	87-251-071-410		U+2.6-4
C	87-512-074-210		SCREW, 2+2.6-8
D	87-352-075-210		VT2+2.6-10

CD MECHANISM EXPLODED VIEW 2 / 2



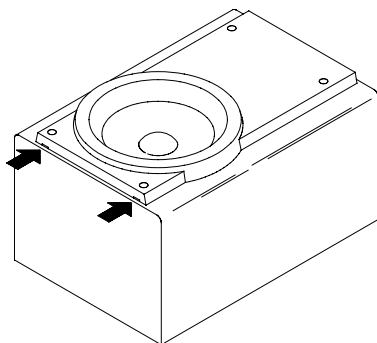
CD MECHANISM PARTS LIST 2 / 2

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-262-010		CHAS ASSY, E3
2	87-A90-836-010		PICKUP, KSS-213F
3	83-ZG2-235-010		GEAR, A3
4	83-ZG2-236-010		GEAR, MOTOR 3
5	83-ZG2-205-310		GEAR, B
6	83-ZG2-253-010		SHAFT, SLIDE 5
A	87-261-032-210		V+2-3

GENERAL SPEAKER DISASSEMBLY INSTRUCTIONS (FOR REFERENCE)

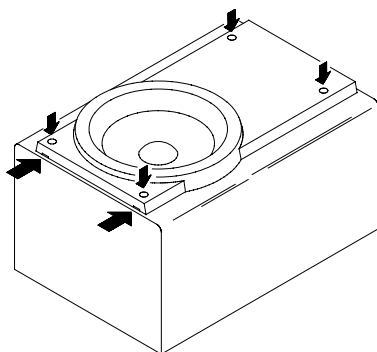
Type.1

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



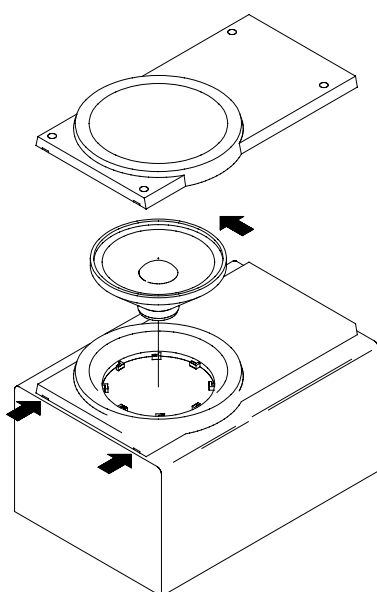
Type.2

Remove the grill frame and four pieces of rubber caps by pulling out with a flat-bladed screwdriver. Remove the screws from hole where installed rubber caps. Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.

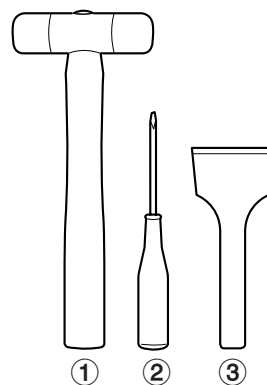


Type.3

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Turn the speaker unit to counter-clockwise direction while inserting a flat-bladed screwdriver into one of the hollows around speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turning to clockwise direction until "click" sound comes out.



Type.4



TOOLS

- ① Plastic head hammer
- ② (⊖) flat head screwdriver
- ③ Cut chisel

How to Remove the PANEL, FR

1. Insert the (⊖) flat head screwdriver tip into the gap between the PANEL, FR and the PANEL, SPKR. Tap the head of the (⊖) flat head screwdriver with the plastic hammer head, and create the clearance as shown in Fig-1.
2. Insert the cut chisel in the clearance, and tap the head of the cut chisel with plastic hammer as shown in Fig-2, to remove the PANEL, FR.
3. Place the speaker horizontally. Tap head of the cut chisel with plastic hammer as shown in Fig-3, and remove the PANEL, FR completely.

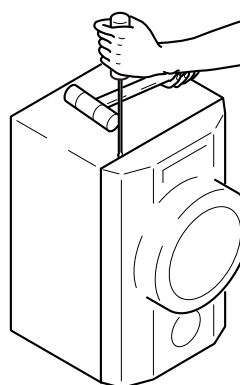


Fig-1

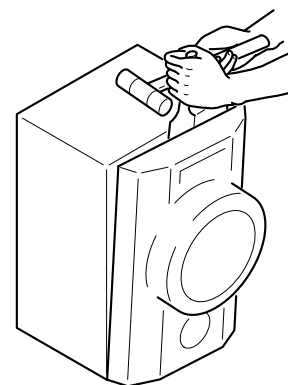


Fig-2

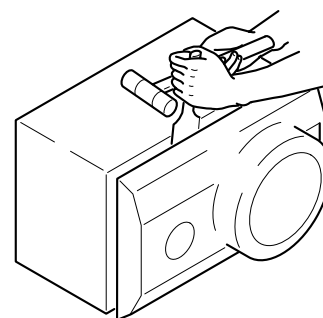


Fig-3

How to Attach the PANEL, FR

Attach the PANEL, FR to the PANEL, SPKR. Tap the four corners of the PANEL, FR with the plastic hammer to fit the PANEL, FR into the PANEL, SPKR completely.

SPEAKER PARTS LIST (SX-LM191<YJMN>)

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8B-CP9-002-010		PANEL, FR
2	8B-CP9-003-010		RING, TW
3	8B-CP9-004-010		GRILLE, FRAME ASSY
4	8A-CL9-163-010		SPKR, CERAMIC
5	8A-CL9-164-010		CORD, SP

SPEAKER PARTS LIST (SX-LM171<YJSN>)

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8B-CPW-001-010		CABI, FR
2	8B-CPW-002-010		CABI, REAR
3	8B-CPW-003-010		GRILLE, FRAME ASSY L
4	8A-CL9-164-010		CORD, SP
5	8A-CL9-163-010		SPKR, CERAMIC
6	8B-CPW-602-010		SPKR, 110 160HMS

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